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TANGANYIKA

MINISTRY OF HEALTH AND LABOUR

Annual Report
of the
Health Division
1961

VOLUME I

Prepared by the Chief Medical Officer

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1. GENERAL REVIEW

1.1. As usual, this Report has been compiled at a time when detailed statistical information is not yet available. The collation and analysis of that information takes some time and the essential figures relating to the medical services will be published separately as Volume II of the Annual Report. The figures quoted in this part of the Report are as accurate as possible in the circumstances, but they are, of course, incomplete and subject to confirmation and correction. It is anticipated that they will differ only in a minor degree from those published in the second volume.

1.2. The medical services continued as a Division of the Ministry of Health and Labour throughout the year.

1.3. There was no change in the administrative structure of the medical services, which continued to be organized on a provincial (now regional) basis. In an effort to utilize medical staff to the best advantage, progress was made in the implementation of a new policy which sought to give Provincial Medical Officers (now Regional Medical Officers) duties other than purely administrative. In the Tanga Region, the Regional Medical Officer assumed the duties of Regional Tuberculosis Officer; in the Western Region he assumed the duties of Sleeping Sickness Officer, and in several other regions he took charge of the principal hospital in the region.

1.4. As stated in last year's Report, in addition to the services provided directly by the Health Division of the Ministry, important services continued to be provided by local authorities and voluntary agencies. The Ministry's direct responsibility was in respect of its own hospital services and general public health measures. The local authorities were responsible for rural medical services, mainly based on health centres and dispensaries, and local public health measures. The voluntary agencies were mainly concerned with the provision of hospital services, but in addition augmented the dispensary services of the local authorities. The general supervision of the medical activities of the local authorities and of the voluntary agencies continued to be exercised by the district and regional medical officers. In the case of town councils and township authorities, with two exceptions, the medical officer of health was an officer on the staff of the Ministry.

1.5. The Christian Churches continued their valuable contribution to the medical services of the country. The rebuilding of several hospitals was commenced and extensions and improvements effected in many others. Reports on the effects of famine conditions were received from several areas. A more positive approach to public health problems was reflected in the inauguration of a number of local public health education schemes centred on voluntary agency hospitals, and the co-operation of voluntary agencies and government in area tuberculosis schemes was still further extended to include voluntary agency hospitals in the Tanga and Southern Highlands Regions.

1.6. Throughout the country the demands on the curative services have continued to increase very considerably. Particularly has this been so in the case of out-patients, and this has placed an undue strain on an already over-worked staff. Furthermore, although the total number of medical staff was maintained, the position was worsened by the replacement of experienced staff retiring under the Secretary of State's Compensation Scheme by newly appointed staff, many of whom are relatively inexperienced.

1.7. The principal event during the year was the opening of the third ward block at the Princess Margaret Hospital. This block was named after Dr. Mwaisela, one of the earliest Tanganyikan graduates from Makerere. Designed originally to accommodate 200 beds it now accommodates with ease 230 patients. The opening of this block enabled the historic Sewa Haji to be closed at long last, but even now a more recently erected ward block adjacent to the Sewa Haji Hospital continues to be used as a tuberculosis and leprosy out-patient department. Another major event during the year was the evacuation of the general beds at the Ocean Road Hospital by its Grade I patients and their replacement by maternity patients. The Ocean Road Hospital now accommodates 116 maternity beds. Other capital works completed, almost completed or well in hand included three 26-bed tuberculosis wards at Dodoma, the large out-patient block of the new Mwanza Hospital, a 26-bed ward in Mbeya, a 26-bed and a 13-bed ward at Njombe and new hospitals at Kasulu, Tukuyu, Kyela and Handeni.

1.8. It becomes increasingly evident that the activities of the Health Education Unit of the Health Division can become fully effective only when the furtherance of health education becomes a principal aim of every member of the staff and ceases to be regarded as a speciality to be practised only by specialized health education staff. Unfortunately, the unceasing increase in the demand from the public has not been matched by a corresponding increase in trained staff, and it has been virtually impossible, except in the case of the maternity and child services, for the general medical staff to devote sufficient time to the important preventive aspects of the work. Furthermore, chiefly for financial reasons, and the scarcity of suitable candidates, little progress has been made in building up the teaching staff of the Health Education unit itself, but in spite of this difficulty considerable progress has been achieved in the introduction of health education instruction into the current programmes for the upgrading of medical assistants and assistant health inspectors and into nursing training programmes.

1.9. The year 1961 was a famine year in many areas of the country. The abnormal weather adversely affected both food and cash crops. In some districts grazing became so scarce as to cause a heavy toll of livestock, particularly cattle. The Masai were particularly affected in this respect. Considerable assistance in dealing with the famine conditions was provided by external agencies. It is to the credit of all those concerned in various relief measures that serious malnutrition and deaths directly attributable to famine conditions were avoided.

1.10. The preliminary malariometric and entomological studies for a trial of medicated salt were undertaken at Mto-wa-Mbu during the year and the first batch of common salt supplied through a single wholesaler was treated with a commercial preparation of chloroquine at a dosage of 30 mg. chloroquine base to 10 grams of common salt. Malaria is highly endemic at Mto-wa-Mbu and various methods tried in previous years for its control have been unsuccessful. The present trial proceeds aided by the World Health Organization.

1.11. The steady increase in the number of cases of smallpox notified in previous years was halted in 1961. Not only was the incidence of the disease less, but there was also a reduction in the case mortality rate. The indications are that the milder form of the disease noted in 1960 still tends to prevail. Unfortunately, reports of non-co-operation in vaccination campaigns continued to be received in respect of some areas.

1.12. The general picture in respect of poliomyelitis remains similar to that in the previous year, the total number of cases reported being only slightly less.

1.13. During the year an offer to assist in the leprosy campaign of the country was received from the Swedish and Norwegian Save the Children Fund and was gladly accepted. Towards the end of the year plans were finalized and two medical officers of the Organization arrived at Bukoba to gather preliminary information. The main administrative and treatment centre in this scheme is being built at Kitendaguro, three and a half miles from Bukoba, and the scheme will include satellite dispensaries throughout the West Lake Region.

In the Central Region considerable progress was made by the Church Missionary Society in establishing a new leprosy and control centre at Hombolo. The Augustana Lutheran scheme centred at Iambi continued to develop.

1.14. The problem of tuberculosis continued to assume an ever-increasing importance and the service continued to expand in an endeavour to deal with the problem. Full details of the progress of various schemes are given in para. 3.1.4.

1.15. There was a decrease in the incidence of cerebro-spinal meningitis during the year, but unfortunately the case mortality rate shows no comparable decrease, remaining at approximately 12 per cent.

1.16. Rabies continued to be endemic throughout the Southern Highlands Region and numerous persons presented themselves for treatment with a history of having been bitten by a dog suspected of having rabies. Twelve deaths were reported during the year.

1.17. No new legislative measures were enacted during the year.

1.18. Estimates for the financial year 1960/61 totalled £1,959,646. The actual expenditure was £1,866,407, i.e. £93,239 under the estimate. Unfilled posts resulted in a saving of £36,000 and in the medical unallocated stores account the value of issues exceeded purchases, resulting in a credit of £32,000 as against an estimated net expenditure of £5,000. Despite this the actual expenditure was £22,000 more than the expenditure in the previous year. Expenditure on capital works was £227,548 out of an estimated expenditure of £283,101, i.e., £55,553 under the estimate. Savings were due to delays in starting building.

2. STAFF

2.1. Throughout the year there were continued losses in the strength of professional, nursing and technical staff, as members of Her Majesty's Overseas Civil Service took advantage of the terms offered in the Secretary of State's Compensation Scheme. Overall losses were not at first unduly heavy, amounting to a total of some 25 per cent of those eligible for inclusion in the scheme, but the losses caused some difficulty in maintaining adequate specialist services owing to the resignation of a majority of the clinical specialists. Furthermore, the rate of loss during the last six months of the year showed every sign of continuing during 1962.

2.2. Equal difficulty was also encountered owing to the high percentage of retirements amongst the most senior members of the administrative medical staff. Perhaps the most serious effect of the retirement scheme on the medical services has been the very high rate of loss in the cadre of nursing sisters, the strength of which, in any event, had been dangerously below the authorized establishment for many years. Fortunately, by the end of the year it seemed that the difficulties caused by many retirements could be overcome. In the case of the clinical specialists, all have been replaced or, in the case of two specialists, replacements are in view. The temporary fall in the permanent strength of the medical officer cadre was compensated for by the engagement of a rather unduly high number of temporary medical officers and at the end of 1961 the total number of doctors in the service was in fact nine higher then it was at the beginning of the year. (Subsequently the position has improved even further.)

2.3. Unfortunately, although it may be said that the clinical staff of the Division has been maintained satisfactorily, this has not avoided considerable difficulties in staffing the various units of the Health Division during the year. There were two principal reasons for this difficulty; firstly, the necessity to maintain at full strength an adequate staff at the Princess Margaret Hospital, principally for the purposes of training, especially in order to provide adequate clinical staff for the medical up-grading courses; secondly, the greatly increased demand by the public for medical services and development projects were by no means adequately catered for by a mere maintenance of the strength of clinical and nursing staff. The moderate increase in the number of doctors during the year was below the number required to meet increased demands.

2.4. Similarly, in the case of nursing sisters, it was possible to engage up to 60 temporary nursing sisters at one time and the engagement of these sisters enabled the nursing service to continue during the interval necessary for the up-grading of local nurses from Part "B" of the Register to Part "A", and their subsequent appointment as nursing sisters and charge nurses.

2.5. In the case of cadres other than those filled by medical practitioners, plans for the localisation of all posts were well advanced by the end of the year.

3. COMMUNICABLE DISEASES

3.1. Direct Infections

3.1.1. *Smallpox*

Reported Incidence, 1957–1961

	1957	1958	1959	1960	1961
Cases	856	1,176	1,442	1,584	914
Deaths	38	94	158	83	45
Case Mortality per cent	4·4	7·9	10·93	5·24	4·93

As will be seen from the table above the steady increase in the number of cases of smallpox notified during recent years was halted in 1961. Not only was the incidence of the disease less, but there was also a reduction in the case mortality rate, an indication that the milder form of the disease noted in 1960 still tends to predominate. More than half the cases notified occurred in two of the nine regions, namely Southern Highlands and Eastern Regions, the latter including the City of Dar es Salaam.

In the Southern Highlands the disease was widespread with the majority of cases occurring in the Iringa and Njombe Districts and in the Mporotos Mountains. In the case of the Eastern Region, the largest number of cases was reported from Kisarawe and Morogoro Districts. Within Dar es Salaam City 82 cases were reported, but the close connection between this area and the surrounding districts of Kisarawe and Mzizima makes an accurate distribution of cases between urban and rural areas impossible.

The difficulty of effecting control of smallpox is illustrated by the report from the Regional Medical Officer of the Eastern Region who, referring to Kisarawe District, writes: "It is estimated that 40 per cent of the population were vaccinated during the vaccination campaign of 1961, though turn-outs at well-publicized sub-chiefdom campaigns were very poor indeed in the coastal areas. Case concealment and failure to notify smallpox cases are also common in these areas."

Although the total number of cases of smallpox in the Central Region was only slightly more than in 1960, the persistent occurrence of cases in Kondoa District gave rise to concern. Food and grazing shortages resulting from the failure of the rains caused large scale movements of population and made it difficult to trace the origin of the majority of the reported cases.

The long-standing epidemic in the Kasulu and Kigoma Districts of the Western Region appears to have come to an end. During the year only 23 cases were notified for the whole of the region and of these 18 came from Ufipa District where control of the border with Northern Rhodesia has always been difficult.

Small scale out-breaks and sporadic cases were reported from other regions and areas. In one area, that is in Moshi Township and an adjacent area on Kilimanjaro the outbreak, although small, was of the virulent type and five of the nine cases reported were fatal.

3.1.2. *Poliomyelitis*

Reported Incidence, 1957–1961

	1957	1958	1959	1960	1961
Cases	386	187	144	210	191
Deaths	11	6	7	9	11
Case Mortality per cent	2·8	3·2	4·94	4·28	5·76

The number of cases reported during the year shows a decrease in relation to the previous year's figures. Little significance can be attributed to this as the reported incidence probably bears little relationship to the actual number of cases which occurred.

The general picture is similar to that presented in 1960; no serious outbreaks of the disease were encountered and investigation of sporadic cases seldom gave evidence of connection with other known cases.

3.1.3. *Leprosy*

Significant although unspectacular progress continued during the year in control measures directed against this disease.

The Eastern Region has the advantage of having the Leprologist stationed within it and he reports, with particular reference to leprosy in the Morogoro district, as follows:—

"There are 19 out-patient centres including Chazi Leprosarium, the Government Hospital, Morogoro, and the Tawa Health Centre. The total of patients registered is of the order of 4,000 and the attendance rate, on average, is about 50 per cent.

The epidemiology of leprosy, particularly in the Uluguru Division of the District is of great interest. A publication by Dr. Peiper (1912) 'Leprosy in German East Africa' has been consulted. Dr. Peiper reports that Mr. Robert Koch visited Morogoro during the early years of the century and gave it as his opinion that leprosy was of recent origin and rapidly spreading. All the evidence to date indicates that he was right. The German administration set up a number of leprosy villages, providing such treatment as was then available, but with the primary object of segregating as many cases as possible throughout the territory. Some of these survive to this day (e.g. Tabora near Mahenge).

In the Ulugurus these villages were situated along the old road from Ngerengere to Kisaki. With the coming of the Great War, 1914–18 and the change in the administration, together with Hutchison's theory (that leprosy was due to eating bad fish) which was current in Britain at that time, these villages ceased to function. The natural movement of the population into the Uluguru area was through the leprosy village zone. In consequence a large number of susceptibles came into contact with an artificially concentrated focus of infection and the resulting 'epidemic' is still with us.

This series of events serves to illustrate that leprosy spreads in a community simply and solely because of opportunity for contact between infective cases and susceptible individuals. Climate, age, sex and even standards of living have little if any effect on its epidemiology. (It is now not accepted that children are especially susceptible, but merely that in some rural societies they have ideal opportunities for infection.) It is as yet unknown to what extent or how quickly sulphones 'sterilize' the infective case (sulphones are bacteriostatic not bacteriocidal) and our policy must be to retain such facilities as we have for partial, voluntary segregation, while concentrating our main attack on the disease through mass treatment in rural dispensaries."

In the West Lake Region the Swedish and Norwegian Save the Children Organization agreed to establish an extensive anti-leprosy campaign. Plans were finalized towards the end of the year and two medical officers of the Organization arrived at Bukoba to gather preliminary information. The main administrative and treatment centre in this scheme is being built at Kitendaguro, three and a half miles from Bukoba, and the scheme will include satellite dispensaries throughout the region.

In the Central Region considerable progress was made by the Church Missionary Society in establishing the new leprosy and control centre at Hombolo. Building operations were hampered very considerably by very heavy rains In Singida District the activities of the Augustana Lutheran Mission at Iambi and those of the local authorities were well integrated and co-operation in this field is very good.

In the Western Region there are now out-patient treatment facilities at all hospitals, rural health centres and a large percentage of the rural dispensaries. The percentage of defaulting patients unfortunately remains high. By far the greater part of institutional treatment is carried out at the Moravian Mission leprosarium at Sekonge in the Tabora District. Unfortunately, owing to the great size of this region, a relatively small proportion of leprosy patients requiring in-patient treatment are actually admitted to Sekonge and consideration is being given to the establishment of another leprosarium in the western part of that region.

In the Northern Region, out-patient treatment is available at the major government hospitals and patients requiring in-patient treatment are admitted to the government leprosarium at Chazi in the Eastern Region. A new out-patient leprosy clinic was established at Mbugwe by the Medical Missionaries of Mary stationed at Ndareda.

In the remaining regions, leprosy control measures were substantially the same as in previous years.

3.1.4. *Tuberculosis*

The problem of tuberculosis continued to assume an ever-increasing importance and the service continued to expand in an endeavour to deal with the problem. In the Northern Region, Kibongoto remains the centre of the tuberculosis service. During the year 897 new cases were admitted to this hospital alone and in addition a total of 539 new cases were admitted to the Mbulu and Ndareda Hospitals. This latter figure is a considerable increase on the Mbulu figures for the past three years, viz. 1959—331; 1960—506; 1961—539. It is of interest to note that in 1955 the total number of cases diagnosed in that district was 65.

The Regional Tuberculosis Officer has summarized the position in the area surrounding Moshi as follows:

(1) A decrease in the incidence of positive pulmonary tuberculosis has occurred on Mount Kilimanjaro. (The Tuberculosis Officer was of the opinion that this is the first time that treatment and preventive measures have reduced the incidence of this disease in any country in Africa.)

(2) The number of "negative" cases has increased over the years due to increased case finding, the treatment of children under the age of five years who are tuberculin positive, and an increase of awareness of the nature of the disease by the community. Large numbers of people attend clinics for examination and re-assurance.

(3) A high incidence of active disease was found amongst contacts of known cases. This amounted to 21·3 per cent and indicates the great importance of the contact tracing. The Regional Tuberculosis Officer stressed the fact that the susceptibility of the tubercle bacillus to the three principal drugs exhibited was maintained to such an extent that pre-treatment resistance ceased to be a problem.

In Mbulu District, since treatment and records were first started in 1955, a total of 2,206 cases of active disease have been diagnosed. Of these 938 were still under treatment at the end of the year, 209 had died and 217 had been passed as cured. A gratifying feature has been the continued fall in the number of patients who failed to attend at the treatment centres when told to do so. In 1955, for example, 33 of the 65 cases under treatment were grossly irregular in their attendance. During the year under review that number had fallen to 10 out of 539 patients.

Unfortunately, the position in Masailand in particular remains far from satisfactory. A considerable proportion of patients who had previously been treated in Kibongoto failed to attend at the follow-up centres and subsequently reported gravely ill. The District Medical Officer in Masailand comments on this matter as follows: "Therefore our treatment programme merely gives the patient enough renewed vitality to go back and distribute his bacilli a little more actively in the kraal rather than succumbing in some corner where he would be much less lethal to the community". It is undoubtedly true that whilst the number of active cases admitted to Kibongoto from amongst the Masai has increased steadily during the past few years, there has been little corresponding increase in the regular attendances at the out-patient clinics.

To summarize the position in the Northern Region, there has been good progress in the Kilimanjaro District, fair progress in Mbulu, some progress in Arusha and little or no progress in Masailand.

In the Southern Region there has been continued pressure on hospital beds made available for the treatment of tuberculosis and although the authorized number continued at 325 the actual figure was much closer to 400. The number of out-patient treatment centres was expanded to 15 in the eastern end of the region and to 21 in Songea and Tunduru Districts. The enormous area covered by the scheme not unexpectedly led to considerable difficulty in respect of the transport of patients and, for that matter, supervisory staff.

Unlike the position in the Northern Region, grave concern continues to be felt in respect of the poor attendance of patients at the out-patient treatment centres. Nevertheless, it is far better than it was during the early days of the Mbulu scheme, the estimated rate of defaulters being about 15 per cent.

It is estimated that the percentage of patients sputum negative on discharge was in the range of 88 per cent to 98 per cent, with an average of about 90 per cent. Considering that this includes a high proportion of re-admissions the figure would seem to be reasonably satisfactory.

From the Tanga Region the Regional Tuberculosis officer reports as follows:

"The Tanga Tuberculosis Scheme, started in 1959, underwent certain important clinical and administrative changes. The original scheme, under the control of a Provincial Tuberculosis Officer, treated patients in hospital for about three months initially—afterwards they returned monthly to receive their drugs and be seen by the Tuberculosis Officer at one of the main centres in the province, i.e. Tanga, Korogwe, Lushoto, Handeni or Pangani.

"In September the Tuberculosis Officer proceeded on leave, and his duties were undertaken by the Regional Medical Officer with a Medical Assistant as a helper. It was then decided to decentralize the scheme and to request patients to return to the main centres only when they were due for X-ray and review. At other times they were to be issued with drugs from the dispensary nearest their homes, every two weeks, and careful records of their attendances would be maintained. The supervision of attendances and record keeping, etc., at these dispensaries was to be mainly in the hands of the District Medical Officers and Tuberculosis Home Visitors, assisted when possible by the Regional Medical Officer and his Medical Assistant. The main duties of the Regional Medical Officer with regard to tuberculosis were to be the supervision of in-patients and the review of out-patients when they returned to the main centres. It is hoped that this system will, by reducing the distances which patients have to travel for their drugs, increase the attendance rate and enable us to discover and trace defaulters at an earlier stage.

"The main clinical changes, two in number, were important and far reaching:

(1) Following the publication of the successful results of the M.R.C. trials with Thiosemicarbazone as a companion drug for Isonicotinic Acid, it was decided to use a tablet combining both these drugs as a routine, initial treatment for in-patients, and also as the routine out-patients chemotherapy for non-complicated cases. The effects of this change are important.

(a) The cost is much smaller than with the old Paraminosalicylic Acid/INAH regime. Indeed one can treat five patients for what it previously cost to treat one. This in turn leaves more money available for the purchase of second line expensive drugs for patients excreting bacilli resistant to standard Chemotherapy.

(b) The size of the tablets is small and the dose only two daily. This compares favourably, both clinically and administratively, with the combined Isonicotinic Acid/Paraminosalicylic Acid tablets (whose size often caused them to be described as 'horse pills') or to the separate tablets of these drugs which necessitated a daily dosage of 26 tablets.

(2) In the latter part of the year the sputa of all new cases was sent for culture and sensitivity testing. Thus it is hoped in future, not only to have a guide to the correct treatment of the individual patient, but to obtain an idea of the amount of initial resistance in the region to the various drugs in use and with this knowledge to exhibit drugs which have the greatest prospect of success in the untreated case, whose sensitivity is unknown.

"The number of beds in the region devoted to the disease is now 204, twenty more than last year. This is because Bumbuli Lutheran Mission Hospital, which has entered the regional scheme, now has twenty beds for the treatment of the disease. This addition to our bed strength is greatly welcome. The Mission receives a bed grant and free drugs and X-rays from Government for this work. All beds were fully occupied during the year. The number of out-patient centres is 31. In all, counting both in- and out-patients, 1,650 patients are under treatment or observation, i.e. 0·3 per cent of the general population, while it is calculated that the total number of infectious tuberculosis persons in the region, excluding Same, is slightly over three times that number.

"The regularity of attendance of those out-patients receiving chemotherapy varies from place to place throughout the region—from over 70 per cent at Tanga to as low as 50 per cent at Muheza. It is hoped to raise the percentages in all areas substantially by the policy of decentralization already discussed. Other advances in 1961 have been that local authorities have agreed to:

(a) bear the cost of transporting patients to the main centres for X-ray examination; and,

(b) bear the cost of providing BCG vaccine for schoolchildren in the region. Vaccination of school children in Handeni District was carried out in 1961."

In the Central Region, the completion of new buildings at the Dodoma Hospital enabled the tuberculosis hospital at Kongwa to be evacuated and the patients removed to Dodoma, where 78 beds were made available. During the year 247 patients were admitted to the unit, either at Kongwa or at Dodoma. The Regional Tuberculosis Officer reports that with the exception of one patient all who were discharged had a negative sputum. He concludes from this that initial drug resistance does not constitute a problem in the Central Region. During the year 14 patients absconded, but it was possible to trace and re-admit seven of them. The remainder have not been traced.

During the year 335 new cases were notified and because of the gap between notifications and the number who could be admitted, a number of these were taken to Kibongoto Hospital in the Northern Region. Towards the end of the year the waiting list for hospital admission was virtually nil. On the other hand 25 cases of the disease were admitted for treatment in other hospitals in the region.

In Dar es Salaam the number of tuberculosis cases under treatment continued to grow. In 1960, 429 were admitted, as compared with 591 in 1961; 249 cases were treated throughout as out-patients and the total number of patients receiving drugs regularly as out-patients was 635.

The Medical Specialist reports the following features in the Medical Research Council's trial of thiacetazone and INAH.

(1) The general adoption of the policy of treating new patients with three drugs. As many new patients as possible are admitted and treated with Streptomycin/INAH 300/PAS 15, or Streptomycin/INAH 300 TBI 200. Those treated as out-patients are now usually getting INAH 300/TBI 200/PAS 15, although there is a growing daily Streptomycin outpatient clinic. If possible three drugs are used until the pre-treatment sensitivities are known. As a routine new patients admitted to hospital stay for three months.

(2) The very high number of absoconders. Most of these are those who are treated initially as in-patients because they have overcrowded, poor home circunstances, are very ill or because they live far from treatment centres.

(3) The repidly increasing number of patients who are resistant to tuberculosis antibiotics before treatment.

In the Lake Region an apparent increase in the incidence of tuberculosis was reported from all districts. Although as yet there is no properly organized regional scheme, local schemes, due to the interest and initiative of the officers in charge of the various medical units such as Sumve Mission Hospital, continued to operate during the year. Treatment was also carried out at all government units, some of which unfortunately were unable to provide even limited in-patient treatment because of lack of hospital beds and isolation facilities. Plans are well advanced for the establishment of a regional anti-tuberculosis scheme in this region.

In the Southern Highlands Region, the Baptist Hospital in Mbeya which started to admit patients in 1960 was full to capacity well before the end of the year. In the Njombe District at Lugarawa the Roman Catholic Mission built an excellent 51-bedded unit with good radiological facilities. The unit was ready for opening at the end of the year. The constructing of a 24-bedded unit at the Lutheran Mission Hospital at Ilengula was also commenced.

3.1.5. *Dysenteries and Enteric Fevers*

Enteric fever was reported sporadically from all regions during the year and no outbreak of the disease merits special mention.

3.1.6. *Trepanematosis*

The coutry remains relatively free from yaws and it is only in Kibondo and Kasulu Districts that the disease remains a major problem. Statistics available at the time of writing this report indicate that a decrease in the incidence of this disease has occurred even in these districts. A small scale campaign in Jibondo Island, Mafia, has every appearance of having effected an eradication of the disease from that area.

It is interesting to trace the decline in syphilis in the Bukoba District where an organized anti-venereal disease campaign has been in operation since 1953. During the first year of operation of the scheme 4,611 cases were treated. Since then the total number of cases treated has never risen above 1,499 (1954) and has now reached the figure of 238. Of interest also is the diminution in the number of cases of all forms of venereal disease treated at this clinic from 19,072 in 1953 to 1,085 in 1961.

3.1.7. *Cerebro-spinal Meningitis*

There was a decrease in the incidence of this disease during 1961, 938 cases with 113 deaths being reported as against 1,022 cases with 147 deaths in the previous year. Unfortunately, the case mortality rate shows no comparable decrease, remaining at approximately 12 per cent.

The two regions seriously affected by this disease were the Southern and Lake Regions. As in the previous year the majority of the cases in the Southern Region occurred in the Masasi District where 143 cases were reported out of a regional total of 353 cases. It is of interest to note that the case mortality for this district was 1·4 per cent for the whole year, but for the period of greatest incidence it remained at nil. In the Lake Region the disease was widespread, but did not predominate in any one district nor did it appear in epidemic form.

Elsewhere in the country sporadic cases have occurred with only Western Region reporting an increase over the 1960 figures. A sharp outbreak occurred at the prison at Mikumi and this spread to the inmates of Kingolwira before it could be controlled.

3.1.8. *Rabies*

A number of persons were reported to have been bitten by rabid dogs in the Kigoma, Kasulu and Sumbawanga Districts of the Western Region. The disease is still endemic throughout the Southern Highlands Region and numerous persons presented themselves for treatment with a history of having been bitten by a dog suspected of having the disease. Throughout the country 12 deaths were reported.

3.1.9. *Influenza*

No significant outbreak of this disease occurred during the year, although cases were reported sporadically throughout the country.

3.1.10. *Anthrax*

Anthrax continued as a relatively common disease in most regions of the country. Special note is made of its occurrence in the Northern Region where 58 cases were admitted to Moshi Hospital. In Arusha District 35 cases were notified and it is a fairly common disease on the plains below Mount Meru. It is reported that the majority of the cases were quite mild.

In Masailand most of the cases are cutaneous, but as the Oloiboni practise excision of the lesions, Monduli Hospital has had a number of admissions due to sepsis following this unusual procedure.

3.2. VECTOR-BORNE DISEASES

3.2.1. *Plague*

The country's freedom from plague continued throughout 1961.

3.2.2. *Relapsing Fever*

Only the louse-borne form of this disease is internationally notifiable and the occurrence of this form of the disease has not been reported in Tanganyika.

The tick-borne disease continued to occur sporadically throughout the country and it is a common disease in the Lake and West Lake Regions. It is common on Ukerewe Island and in Ngudu and Musoma Districts. It is very rare in the Mwanza and Shinyanga Townships where the regular dusting of houses with residual insecticide is practised.

3.2.3. *Sleeping Sickness*

Reported Incidence, 1957–1961

	1957	1958	1959	1960	1961
Cases	410	574	867	796	758

Although somewhat fewer cases were reported during 1961 than during the previous year the overall position, both as regards incidence and distribution was similar. A considerable reduction in the number of new cases notified from the Lake Region and a somewhat smaller reduction in the Eastern Region more than offset the increases reported from the Northern, Southern and Western Regions.

A fuller account of the disease and of the activities of the Sleeping Sickness service is given in paragraph 15 of this Report.

3.2.4. *Malaria*

A general review of the activities of the Malaria Service will be found in paragraph 13 of this Report.

3.2.5. *Other Vector-borne Diseases*

During the early part of the year a dengue-like fever occurred in the Eastern Region, locally known as Bunduga. Serologically it resembled O'Nyong-Nyong fever. The extensive outbreaks of the previous year were not reported from any area.

3.3. HELMINTHIC INFESTATIONS

3.3.1. *Schistosomiasis*

Schistosomiasis continues to be prevalent in many areas scattered throughout the country and it appears likely that the increased use of irrigation for agricultural purposes and the increasing popularity of fish-ponds constitute a danger of its spread to areas now uninfected. The research referred to in the last Annual Report was continued and intensified at the East African Institute for Medical Research at Mwanza and at the East African Institute of Malaria and Vector-borne Diseases. A fuller account of the activities of these units may be found in the annual reports of these research establishments.

In the Northern Region the Tropical Pesticides Research Institute continued its experiments on the control of the snail vectors by the use of molluscicides. This work is being assisted by the World Health Organization.

4. MATERNAL AND CHILD HEALTH

4.1. The demand for maternity facilities continues to increase and the resources of the medical services, both government and voluntary agency, continue to be strained to the utmost in this respect. One result of the increasing demand for institutional midwifery is a considerable, but statistically fallacious, decline in the infantile and maternal mortality rates in certain hospitals where the vast majority of the cases dealt with are simple, straightforward deliveries. For example, Tabora reports almost 1,000 births with 5 maternal and 13 neonatal deaths, the latter mainly due to prematurity; Korogwe in Tanga Region on the other hand, restricts admissions as far as possible to abnormal cases and as a result reports two maternal deaths and 28 still-births in 157 deliveries—figures which appear alarmingly high until it is appreciated that 56 of these cases required major surgical intervention, including no less than ten cases of ruptured uterus.

4.2. Ante-natal and child welfare clinics continued to increase in popularity even although attendance was not always as regular as it should be. An indication of the growth of this service is given by Arusha, where there were 4,218 ante-natal attendances and 8,063 child welfare attendances in 1958, and corresponding figures in 1961 were 10,539 and 17,481. It must, of course, be emphasized that the picture is by no means a uniform one; indeed in the nearby Masai area, the demand for maternity and child welfare services is conspicuous by its absence. Generally speaking, however, most townships and those rural areas in which rural health centres have been established have thriving ante-natal and child welfare clinics.

4.3. The Voluntary Agencies continue to play very important parts in the provision of these services. Particularly outstanding is the service they have built up in Newala District with the co-operation of the local authority. There are eight sub-centres with resident village midwives, based on the mission hospital at Newala which is a village midwife training school, and between them a total of 3,125 mothers or patients attended 26,636 times and 3,790 children attended 33,134 times. In places where these centres are well established, their popularity is noticeable and mothers are reported as sometimes walking as far as 16 miles to attend.

4.4. The support given by U.N.I.C.E.F. to this aspect of the service of the Division continues and is very welcome. It is pleasing to report that the Landrovers presented by U.N.I.C.E.F. for maternity and child welfare work at rural health centres have now been handed over to the full charge of local authorities and only one authority is reported as persistently misusing this transport by employing it for purposes other than for which it was presented. Such misuse, of course, gravely hampers the work of the rural health centre staff.

4.5. The dried milk supplied by U.N.I.C.E.F. is a popular item at all centres and no trace of "consumer resistance" to this dietary supplement remains. It may indeed be an important factor in building up attendances. Inoculation with triple antigen against whooping cough, diphtheria and tetanus, also supplied by U.N.I.C.E.F., which commenced during 1961, has now become a regular feature of child welfare clinics; it is well accepted and popular, although there is a certain amount of wastage due to occassional failure to attend regularly for the full course of inoculation.

5. SCHOOL HEALTH

5.1. It is not yet possible to provide a formal school health service outside Dar es Salaam. Within the city the school health service continued to be provided by the Health Department of the City Council. School nurses make regular examination of school children, referring defects or abnormalities discovered to government clinics and hospitals. In addition to medical examinations the service also provides smallpox vaccination on entry and before leaving and BCG vaccination of all tuberculin negative entrants. Elsewhere in the country schools are visited and schoolchildren examined by divisional staff at all levels as frequently as possible.

5.2. The health of school children was generally good throughout the country, although schools in various parts of the country had their own specific problems. At Pangani, for example, the examination of Middle school children revealed that 12 per cent were infected with hookworm and nearly 30 per cent with urinary bilharzia. At the Masailand school at Ngororo there was a severe outbreak of whooping cough. At certain schools of the West Lake and Lake Regions, the problem of bilharzia continued to cause anxiety and received attention from the regional health staff.

5.3. There has been a considerable expansion in the vaccination of school children with BCG. In the Northern Region all school entrants in the Kilimanjaro, Arusha and Mbulu Districts were vaccinated. In the case of Masailand, considerable resistance continued to be met from parents. In the Tanga Region also the BCG vaccination of school children was extended to the Pare and Handeni Districts and in the Southern Region an extensive programme of tuberculin testing and BCG vaccination was carried out by the Regional Tuberculosis Officer.

5.4. Diets for all government boarding schools and for a number of day schools which provide a mid-day meal have been prepared by the Medical Officer (Nutrition). A school feeding trial was begun at the end of the year and will be completed in 1962. Schools in a number of areas of Tanganyika have continued to supply anthropometric data. The main dietary problems exist in Primary schools where children oftern have to walk long distances to reach their school. They may leave home without having eaten and therefore get their first meal of the day when they return home in the late afternoon. A mid-day snack or school meal is provided in a few areas, notably Kilimanjaro and Dar es Salaam, and it is hoped that before long this system will be adopted throughout Tanganyika. The main difficulty is the high cost of a country-wide project.

6. HEALTH EDUCATION

6.1. Although the work of the Health Education Section has continued, the year has llustrated the regrettably insecure foundation on which it is based. The project on the Bonga sub-chiefdom of the Mbulu District, which was described in detail in the Annual Report for 1960, expanded and throve for the first six months of 1961 and by July of that year was covering three sub-chiefdoms with a population of 16,000. It was then necessary, however, as a result of the divisional programme for the further training and upgrading of staff, to transfer both the Medical Assistant and the Assistant Health Inspector from Babati rural health centre, the focal point of the project. Their replacements had had no training in the techniques and methods of health education and, as the Health Education Field Worker was on leave the Senior Medical Officer, Health Education, was unable to arrange for such training to be given "on the job". The result was the rapid deterioration of the Scheme.

6.2. It is obvious that health education can become a fully viable part of the Division's activities only when it is regarded as a normal part of the duty of every member of the staff and ceases to be thought of as an esoteric speciality. In pursuance of this aim, considerable emphasis is being placed on health education in all training programmes, particularly in the current programmes for upgrading Assistant Health Inspectors to Health Inspectors and Medical Assistants to Assistant Medical Officers.

6.3. A step towards a wider dissemination of Health Education activity was the design and manufacture by the Unit of a standardized teaching set, comprising an easily portable box, when opened can function either as a pinboard or flannelgraph board, and notes and material for a number of flannelgraph illustrated lectures. Two hundred such sets were prepared and issued for field trial to Government departments, missions, etc. They proved a resounding success and arrangements are being made for large scale manufacture and distribution. Posters prepared by the Health Education Unit were also popular and useful and were widely distributed.

6.4. The importance of Health Education is undoubtedly appreciated at the levels at which it is least needed, but its practise at "field" level is still very much a matter of individual interest and ability and also the emphasis placed on it by supervising officers. Generally speaking, it was most effectively pursued in maternity and child welfare clinics where group teaching, to a greater or lesser extent, is the rule.

6.5. In the Tanga Region, in particular, the Ross Institute concerned itself with health education of the workers and management of the various sisal estates in the region. Their target is the provision of a separate latrine for every family and the use of this latrine by every member of the family, also the raising of the standard of personal hygiene, ventilation and diet. The last point is a particularly important one, as wages negotiations within the sisal industry have led to replacement of the former issue of rations by a cash payment.

7. NUTRITION AND FOOD SUPPLIES

7.1. The year 1961 was a famine year for much of Tanganyika, the Central and Northern Regions being particularly badly hit. The abnormal weather conditions affected adversely both food and cash crops and this caused not only food but also money to be in short supply in the affected areas. In some districts grazing became so scarce as to cause a heavy toll of livestock, especially cattle. This latter event caused hardship, especially to the pastoral Masai who rely mainly on livestock for their food supply. The projects undertaken to alleviate hunger and prevent malnutrition were expensive for the Government, both in money spent and in time consumed by Government staff. However, substantial external aid was provided in the form of maize meal or milk powder. The immense task of distribution of these foodstuffs was undertaken by the provincial administration, but in all cases medical personnel assessed the situation and gave very useful advice and assistance. The increased distribution of U.N.I.C.E.F. milk at various clinics played an important role in preventing malnutrition. It is to the great credit of all concerned in these various relief measures that no serious outbreak of malnutrition occurred and that no deaths directly attributable to the famine were reported. There is no doubt that without the measures taken a great deal of suffering and probably many deaths would have occurred. Famine relief measures were continuing at the end of the year and were likely to be necessary at least until mid-1962.

7.2. Cases of malnutrition continued to be seen as in previous years in nearly all areas of Tanganyika. The commonest form reported was due to protein deficiency and was seen especially in young children. In many cases ignorance rather than shortage of protein foods was the cause. An increasing number of cases of vitamin deficiencies of the "B" group are occurring almost certainly due to the rapid spread in popularity of high extraction "sembe" maize flour instead of the traditional whole meal "dona". This has led to the drafting of legislation which, if adopted by Parliament, whould insist on a minimum vitamin content for maize meal and other cereal flours. This would be tantamount to compelling millers to fortify their refined cereal products.

7.3. The Medical Officer (Nutrition) has had an increased volume of work this year, educational programmes being the principal activity. Efforts to reduce the high incidence of malnutrition in the community have been made and it is already apparent that a greater awareness of nutritional problems exists in many quarters. The need now is the furtherance and supervision of extension work at village level, for that is where the main problem exists. It is hoped that in 1962 it will be possible to begin the training of staff for this work. In the meantime the lectures given by the Medical Officer (Nutrition) to Training Grade Health Inspectors, Medical Assistants and Assistant Health Inspectors should help to produce staff who will disseminate nutrition knowledge when posted out to the districts. A female teacher has already been employed and is organizing Nutrition Education classes at a number of Community Development Centres in and around Dar es Salaam. She is also carrying out an investigation into the traditional methods of preserving foods. The Medical Officer (Nutrition) has assisted in training courses on the one hand for Rural Medical Aids, Agricultural, Veterinary and Community Development Assistants, and on the other for such voluntary organizations as the Girl Guides and the Tanganyika Council of Women. Sixteen of the proposed thirty-nine chapters of the "Manual of Nutrition" have been completed and over 2,000 copies have been distributed.

7.4. Three surveys of industrial workers were carried out in Dar es Salaam by the Medical Officer (Nutrition) during the year. One of these was made at the request of the Minimum Wages Board. Another survey was carried out at Williamsons Diamond Mine, Mwadui. These surveys revealed that some signs of malnutrition may be expected in over 40 per cent of those examined. In towns the main deficiencies are due to a lack of vitamin "B".

7.5. A school feeding experiment was begun towards the end of the year and will be completed in 1962. It is hoped that this trial will reveal the most valuable protein-rich snacks capable of local production and costing not more than 20 cents per pupil per day. Seven foods have been selected and are being fed to groups of schoolchildren in the environs of Dar es Salaam. Progress is being assessed by measuring heights, weights, skinfold thickness and haemoglobin.

8. ENVIRONMENTAL HYGIENE

8.1. Urban Housing and Sanitation

8.1.1. Slow but steady improvement in housing standards is reported from most towns. The most popular improvement is the replacement of a thatch roof by one of corrugated iron sheeting. This type of roof undoubtedly diminishes fire risks in high density areas and is usually more weather-proof than thatch. On the other hand it diminishes thermal insulation and is seldom accompanied by any improvement in lighting or ventilation. Provision of improved cooking facilities, better food storage facilities, or adequate washing arrangements are improvements less commonly attempted.

8.1.2. New houses in townships are in general being built to a more acceptable standard, but the demand for housing in most towns frequently leads to over-crowding. In peri-urban settlements, where powers of coercion are weak, building standards are low and it is unlikely that a solution to this problem of the peri-urban slum will be found easily. The enlargement of town areas or the unification of smaller townships with their surrounding local authority areas, which is under consideration, may provide a long term answer, but the first effect of any such alteration in the existing arrangements will be to provide the newly constituted authority with a ready-made slum clearance problem.

8.1.3. Another problem of better building standards is raised by the eternal optimism of the developer who sets out to build on a town plot without first ensuring that he has the necessary capital at his disposal. As a result too many plots are encumbered with partially completed buildings rapidly deteriorating due to the ravages of rain and sun, while their owners are desperately endeavouring to raise the capital to complete them.

8.1.4. Generally speaking, urban refuse collection arrangements are reasonably satisfactory, although it is disturbing to note that the steady rise in the cost of labour is causing some of the smaller and more impecunious local authorities to cut their labour force. One of the first effects of such a cut is a deterioration in the cleanliness of the township.

8.1.5. It is becoming increasingly obvious that all the larger towns of the country will have to face, sooner rather than later, the major capital expenditure of introducing sewerage and proper sewage disposal systems. Even where subsoil conditions are ideal sewage disposal by soakage on individual plots has no place in modern, highly built-up towns and in few of the towns of Tanganyika can subsoil conditions be described as ideal. In almost every town the tale is one of overflowing soakpits and cesspits, sewage contamination of surface drainage, nuisance-causing pit-latrines, and grossly overworked cesspit emptying vehicles, often with highly unsatisfactory disposal arrangements for their contents. Only in Dar es Salaam and in Tanga is there anything approaching a comprehensive sewerage system, both with discharge of raw sewage direct into the sea. Elsewhere there are limited modern sewage disposal schemes, e.g. in the new police lines at Tabora, but financial considerations have militated against the planning of comprehensive schemes. Arusha, which had hoped to commence the installation of such a scheme with disposal on the "sewage lagoon" principle, during 1961, has had to postpone the project.

8.1.6. Water supplies in townships continue to be satisfactory in quantity on the whole, although quality still leaves much to be desired. There are few places in Tanganyika where water drawn from a piped supply can consistently be drunk unboiled with impunity.

8.2. Rural Sanitation

8.2.1. Staff shortages arising from the departure of expatriate health inspectors on premature retirement, coupled with increasing emphasis on training programmes for assistant health inspectors to fit them for promotion to health inspectors has interfered with the wide deployment of health staff in rural areas, which is the long term objective of the Division. In spite of this it has been possible for local training courses to be arranged in several regions, instructing local authority health staff in elementary rural hygiene.

8.2.2. Much of the emphasis of rural health work is still, very properly, being placed on the provision of latrines. This is now generally accepted and in some areas is required under local legislation, but, as pointed out last year, the provision of a latrine is only the first part of the problem; there remains the more difficult question of persuading the people to use it.

8.3. Food Hygiene

8.3.1. Regular inspection of premises on which food is exposed for sale is carried out and pressure is exerted to maintain reasonable standards, but there is often a lack of initiative displayed by shopkeepers in spontaneously seeking to raise their standards.

8.3.2. The increasing use and widespread distribution of frozen foods is presenting a new and important public health problem. These foods depend for their safety largely upon their proper handling by retailers and it is evident that all these have not yet adapted themselves to the new products. In order to maintain frozen foods in sound condition it is essential that they are maintained below 0°F., and that they are sold in strict rotation (the oldest being sold first). That these points are not observed is evident to all—cold display cabinets are in operation only by day as the electricity is frequently switched off at night and customers can be seen selecting goods from the cabinets and so disarranging the age-order of the goods. The effect of this lack of knowledge by the shopkeeper is to be seen particularly in the case of frozen fish, much of which, apparently sound while frozen, is found on thawing out to be unsound.

8.3.3. Generally, the inspection of foods has been carried out with reasonable co-operation from the trade and it has only on a few occasions been necessary for unsound foods to be condemned by a magistrate.

9. INDUSTRIAL HEALTH

9.1. Health of Labour

9.1.1. The major happening during the year was the closure of the Labour Exchange Transit Centre at Tukuyu consequent on the abrogation of the labour recruiting agreement between the Tanganyika Government and the Witwatersrand Labour Association (Tropical Areas).

9.1.2. Quite apart from this major development, the impression has been gained during the year that labour is becoming much more static and there was relatively little recruitment carried out in the Central Region and other traditional recruiting grounds.

9.1.3. There have nowhere been reports of major outbreaks of epidemic or occupational disease amongst labour employed on large estates and in the various industrial concerns. The incidence of malnutrition amongst urban labour continues to give cause for anxiety. Many of the major employing firms have been made aware of this problem and have provided facilities for a certain amount of Health Education. The Ross Institute, although primarily concerned with malaria control, has been active in this regard.

9.2. Industrial Diseases

9.2.1. During the year considerable thought was given to the inclusion of pneumoconiosis in the schedule of occupational diseases. Although uncommon in Tanganyika, cases are seen from time to time and the tendency for labour to become static may well lead, in the long term, to an increased incidence owing to longer exposure to the causative dust. The question of attributability in a chronic disease of this nature is a very difficult one and the solution has yet to be found.

10. INTERNATIONAL AND PORT HEALTH

10.1. Three cases of suspected, but unconfirmed, smallpox were landed from one ship and hospitalized in Dar es Salaam during the year. No other internationally notifiable diseases were reported from any of the country's ports or airfields.

10.2. The four major ports of the country dealing with foreign-going shipping are Dar es Salaam, Tanga, Lindi and Mtwara. A full-time health organization is provided in Dar es Salaam, the staff of which dealt with not only shipping using the port, but also were responsible for the general sanitary supervision of the port and the international airport at Ukonga, some eight miles outside Dar es Salaam. At the other ports no full time organization is maintained, but facilities are provided for the proper supervision of the health of the ports and of the shipping using them.

11. HEALTH OF PRISONERS AND DETAINEES

11.1. The health of prisoners was generally satisfactory, but owing to some overcrowding in prisons constant vigilance had to be exercised to prevent major outbreaks of epidemic disease. In particular, cerebro-spinal meningitis is an ever present cause of concern and several minor outbreaks were reported from several districts. In all cases the outbreaks were rapidly brought under control by sulphanamide prophylaxis, but the danger of a major outbreak will remain until some permanent solution to the over-crowding problem can be found.

11.2. The prison regime of regular and plentiful, if plain, food and exercise continue to exert a beneficial effect on the health of prisoners and it is normal for prisoners to put on weight after admission. In the famine area of the Central Region, pellagra was found to be relatively common amongst prisoners on admission, making necessary dietary supplementation for their first month or so in prison.

11.3. All prisons are visited regularly by a medical officer, the larger ones daily and the smaller ones at less frequent intervals; in the latter daily sick parades are held by a member of the staff of the Health Division.

12. HOSPITALS

12.1. Dar es Salaam Hospitals

12.1.1. Major improvements in hospital services in Dar es Salaam were made during the year. The new third ward block at the Princess Margaret Hospital was completed and was named the Mwaisela Bolck in memory of one of the first Tanganyikans to qualify as a doctor. The increased accommodation made available allowed for an infectious disease block for 230 patients to be established, the majority (180) of them suffering from pulmonary tuberculosis. This enabled the long-deferred final closure of the Sewa Haji Hospital to be implemented on 15th August, 1961.

12.1.2. Although the Sewa Haji Hospital has closed, there still remains a modicum of medical work being carried out on its site. The ward block built a few years ago for the treatment of orthopaedic and ophthalmic patients which is structurally sound and completely detached from the rest of the hospital buildings, was retained for use as a Tuberculosis and Leprosy out-patient clinic.

12.1.3. During the year the hospital services unit, comprising general and instrument mechanics' workshops was completed, the intrument mechanic's equipment transferred from the Central Medical Stores and the whole unit placed under the charge of the Hospital Resident Engineer.

12.1.4. By the end of the year the only patients not satisfactorily accommodated were those admitted to Muhimbili Maternity Unit. This Unit, with 50 beds and 42 cots available in an old, thatched-roof building dealt with an average of some 10 deliveries per day, excluding abortions and those mothers admitted whose babies were born before admission. The corresponding figure for 1960 was 8 per day. In view of this overwhelming pressure on the facilities available, plans were prepared at the end of the year for the conversion of the Ocean Road Hospital into a maternity unit. It was planned that the Grade I general accommodation at that hospital should be replaced by wards in the Twining and Mwaisela Blocks of the Princess Margaret Hospital.

12.1.5. Pressure on the out-patient dispensaries continued to be intense and in Mnazi Mmoja, in particular, a position was reached in which difficulty was being experienced because of the physical proportions of the building relative to the number of patients using it.

12.2. District Hospital Services

12.2.1. *Central Region*

The most important event in this region during the year was the completion of three new 26-bed tuberculosis wards at Dodoma in October. Tuberculosis patients, and the Regional Tuberculosis Officer, were transferred from Kongwa to Dodoma and the former unit was reduced to a bedded dispensary providing accommodation for 20 general medical patients only.

Dodoma Hospital continued to be very busy and indeed Grade IV out-patient attendances almost doubled, from 93,022 in 1960 to 162,359 in 1961. It appears that this increase reflects a more assiduous attendance at hospital rather than any considerable increase in the incidence of disease, as first attendances increased only from 48,127 to 51,045. It is of interest to note that admissions included an average of three cases of anthrax each week from June onwards.

The remaining hospitals and bedded dispensaries in the region continued to be busy throughout the year.

Building of the new hospital at Mpwapwa commenced but was still unfinished at the end of the year, progress having been disappointingly slow.

12.2.2. *Eastern Region*

Medical practitioners continued in charge of hospitals at Morogoro, Kilosa, Bagamoyo and Utete, but it was necessary to withdraw the Medical Officer from Mahenge in July and replace him by an Assistant Medical Officer.

Plans were made for the building of a small hospital at Kisarawe, to replace the Mission Hospital at Minaki which closed in December. As an interim measure a Grade "B" dispensary at Kisarawe was upgraded to "A" and arrangements made for evacuation of the seriously ill to Dar es Salaam.

All hospitals in this region continued to be busy throughout the year.

12.2.3. *Lake Region*

Replacement of the obsolete hospital at Mwanza has commenced. Phase I of the projected new hospital, comprising the outpatient block, was well advanced by the end of the year. The Grade II accommodation at this hospital, being of poor standard in comparison with that available at some other hospitals, was reclassified as Grade III, a popular measure generally, but resulting in occasional overcrowding of the Grade I unit which now has to accept official patients entitled to Grade II accommodation by virtue of their rank.

It was possible to maintain medical officer supervision throughout the year at Musoma, Maswa, Shinyanga, Geita and Ukerewe hospitals, apart from Mwanza itself. The new 60-bed hospital at Tarime was completed by the end of the year.

The relatively new 60-bed hospital at Maswa continued to function on a basis of 40 beds only throughout the year, shortage of staff and funds preventing the deployment of its full resources.

12.2.4. *Northern Region*

All hospitals in this region report a busy year. In Arusha, although out-patient attendances fell by 30 per cent in-patient admissions rose by 10 per cent. Moshi, the largest general hospital in the region reports a 15 per cent increase in out-patient attendances, and in Mbulu the corresponding figure is 33 per cent with in-patient admissions rising by 14 per cent.

A special problem in Arusha is presented by the frequent accidents stemming from its position at the junction of the Great North Road and the Arusha/Tanga Road. Both these roads are tarmac surfaced and speeds tend to be high, resulting in a demand for a great deal of traumatic surgery, particularly for compound fractures. Excellent results have been obtained using intra-medullary screws following open reduction and this method of treatment has the particular advantage in the present state of acute pressure on hospital beds of permitting much earlier discharge than would otherwise be possible.

The large bedded dispenary at Oldeani continued to serve a useful function but the smaller unit at Magugu declined in importance with the increasing popularity of the nearby Rural Health Centre at Babati and the Medical Assistant in charge was replaced by a Rural Medical Aid.

12.2.5. *Southern Region*

Although no hospital building took place in this region during the year the need for replacement of the obsolete hospitals at Mtwara and Kilwa became even more apparent and provision was made in the Three-Year Development Plan for the building of new hospitals in both places.

The hospitals at Lindi, Mtwara, Nachingwea, Newala, Songea and Kilwa remained under the charge of medical practitioners throughout the year.

The Christian Missions in Many Lands opened a hospital at Mbesa, 30 miles south of Tunduru and expressed interest in a proposal that their medical staff should assume charge of Tunduru Hospital, running it as a sub-unit of Mbesa.

12.2.6. *Southern Highlands Region*

In this region also the tale is one of increaing pressure on hospital facilities. The demand for increased hospital accommodation is, however, in the process of being met; in Mbeya the construction of a new 26-bed ward was almost completed at the end of the year; in Njombe the building of two new wards, one of 26 and one of 13 beds was put in hand towards the end of the year; at Tukuyu and Kyela in Rungwe District, the erection of two new hospitals was proceeding apace.

The new Grade I block at Iringa was, unfortunately, found to need modification before it could be taken into use and this had still not been completed at the end of the year.

12.2.7. *Tanga Region*

Tanga Hospital also reports a startling increase in out-patient attendances; attendances have doubled in two years from 143,731 in 1959 to 299,811 in 1961. On the other hand a slight fall in in-patient admissions was noted. The Regional Medical Officer points out that out-patient attendance on this scale means that adequate physical examination is impossible and treatment becomes treatment of the presenting symptom, only those patients who fail to respond to this "conveyor belt" medicine being subjected eventually to a full history and examination. Under such conditions wastage of drugs is considerable and inevitable.

Every hospital in the region, with the exception of Pangani gives much the same story of increasing pressure on the medical services. In Same, in particular, out-patient attendances increased by 50 per cent and the hospital, with 30 beds had an average daily occupancy rate, throughout the year, of 47·75.

Building of a new hospital commenced at Handeni, to replace the bedded dispensary, and work was well advanced at the year end.

It was found possible to instal an X-ray set at Muheza in the second half of the year, thus considerably improving the facilities of this hospital almost half the beds of which are reserved for female tuberculosis patients.

12.2.8. *Western Region*

The new 60-bed hospital at Kasulu in this region was completed and occupied in the middle of the year, but it was not possible to provide a medical officer to take charge of it before the end of the year and it remained a medical assitant station supervised by the medical officer at Kigoma.

All hospitals were busy, in-patient accommodation being full or overfull for most of the year. Nzega continued to be popular as a midwifery centre, 1,291 confinements, an average of 3·5 per day taking place in the hospital during the year.

12.2.9. *West Lake Region*

In this region also there was no diminution in the demand on medical services. Only minor building works were carried out, including the conversion of a Grade II ward to an amenity ward at Bukoba and repairs and adaptations of an existing building to provide a mortuary at Biharamulo.

12.3. TUBERCULOSIS HOSPITAL, KIBONGOTO

Unlike the general hospitals the pressure on beds in this, the largest tuberculosis hospital in the country continued to fall, the daily average bedstate being 226·8 compared with 238·5 in 1960 and 262·3 in 1959. It was found possible to close one male ward for long periods during the year. This steady decline is partly due to an increasing emphasis on domiciliary treatment, but even more it is due to a real decrease in the incidence of pulmonary tuberculosis in the Kilimanjaro area. The decrease is even more marked than the in-patient figures indicate as patients from further afield, e.g. Masailand, are being admitted in increasing numbers. A paper analysing the progress made in this area over the past five years has been submitted for publication.

The Hospital Welfare Scheme now shows promise of success. Coffee to the value of Shs. 3,000/- was produced during the year and it is anticipated, if prices are maintained. that next year's profit will be Shs. 12,000/- to Shs. 15,000/-.

12.4. THE LEPROSARIA

The work of these units, both Government and Voluntary Agency, continued. Increasing emphasis is being placed on the out-patient treatment of leprosy, admission to leprosaria being restricted as far as possible to lepromatous cases. There remains the problem, however, a social rather than a medical one, of the patient whose disease is quiescent and non-infectious, but who is crippled as a result of it and who needs a sheltered environment. Consideration is being given to the division of the major government Leprosaria into leprosy hospitals, run and maintained by this Division like any other hospitals, and Leprosy settlements run by independent Boards of Management controlling the large areas of land alienated to the leprosaria. The need for such boards formed largely from local authorities is becoming very obvious as there is increasing pressure for the allegedly surplus land of leprosaria to be thrown open to local cultivation.

13. THE MALARIA SERVICE

13.1. General Review of the Year

13.1.1. Mosquito control programmes in the largest settlements in Tanganyika continued during 1961 to be based on drainage and larviciding, Malariol High Spread containing BHC, or BHC and DDT together, being applied by means of knapsack pressure sprayers or, under certain circumstances, destruction of mosquito larvae being achieved by the use of BHC powder distributed from rotary dustguns. The control of culicines breeding in peri-domestic waste water remained an important aspect of the urban mosquito control work.

13.1.2. Execution of these programmes was entrusted to Malaria Assistants working closely with other staff of the urban Health Office. Those mosquito controls in the Western, Lake and West Lake Regions were inspected at regular intervals by the Malaria Field Officer based on Tabora, and towards the end of the year a second Malaria Field Officer was posted to Mwanza. Controls elsewhere in the country were visited by the Specialist Malariologist, an Entomologist or one of the two Malaria Field Officers stationed at Morogoro, the head-quarters of the Malaria Service. The senior Entomologist was assigned throughout the year to the study of the snail vectors of bilharzia, working with the Bilharzia Team of the East African Institute for Medical Research at Mwanza, while a second Entomologist, who joined the Service on transfer from the Ministry of Education and had had, since qualifying at Makerere, a considerable experience in mosquito control work, came to Morogoro to assist with the anopheline and culecine aspects of the work of the Service.

13.1.3. Mosquito and malaria surveys were undertaken in many parts of Tanganyika, not only in relation to the transmission of malaria, but also to that of O'nyong-nyong fever, the causal virus of which had spread across the country, carried principally by the common malaria vector, *Anopheles funestus.*

13.1.4. In support of the national mosquito and malaria control compaigns, trials of insecticides and spraying equipment continued to be an integral part of the work of the Service; culicine larvicides and pyrethrum received particular attention during the year. Trials of suppressive anti-malarial drugs included completion of the mass administration of a mixture of 4- and 8-aminoquinoline at weekly, fortnightly, and monthly intervals, of a continuation of mapping of resistance on the part of *Plasmodium falciparum* to pyrimethamine in eastern Tanga Region, and of the commencement of an attempt to suppress holoendemic malaria among the 3,000 inhabitants of the isolated settlement of Mto-wa-Mbu by the indirect method of mixing chloroquine with the common salt sold by local merchants. These trials were supported in part by grants from the World Health Organization.

13.1.5. Training in malaria control methods of Health Inspectors (Training Grade), Assistant Health Inspectors, and Assistant Medical Officers was undertaken by staff of the Malaria Service at the Princess Margaret Medical Training Centre in Dar es Salaam.

13.2. Scientific Publications Produced by Members of the Malaria Service

Clyde, D. F. (1961) "Treatment of malaria with chloroquine among semi-immune patients." *American Journal of Tropical Medicine and Hygiene, 10, 1–4.*

Clyde, D. F. (1961) "Malaria control in Tanganyika under the German administration." *East African Medical Journal:* Part I—38, 27–42; Part II—38, 69–82.

Clyde, D. F. (1961) "History of sleeping sickness in Tanganyika." *East African Medical Journal* 38, 90–92.

Allison, A. C. and Clyde, D. F. (1961) "Malaria in African children with deficient erythrocyte glucose-6-phosphate dehydrogenase." *British Medical Journal*, i, 1346–1349.

Webbe, G. (1961) "Breeding sites of malaria vectors in relation to water management and agricultural practice in the Sukumaland area of Tanganyika." *East African Medical Journal*, 38, 239.

WEBBE, G. (1961). "Field trials of phosphoric acid esters as larvicides and their toxicity to fish." *Annals of Tropical Medicine and Parasitology*. 55, 187.

WEBBE, G. (1961). "Laboratory and field trials of a new molluscicide." *Bulletin of the World Health Organization*, in press.

13.3. During 1961 the control of malaria, primarily by the use of mosquito larvicides and drainage, continued to be the principal duty of the Malaria Service. The Entomologist at Mwanza continued his studies of the ecology and control of the snail vectors of bilharzia, while classification of the rodent and flea vectors of plague was recommenced by the Entomologist stationed at Morogoro. In the field of virus disease, collection of mosquitoes responsible for the transmission of O'nyong-nyong fever was undertaken in sites near Morogoro.

13.3.1. Malaria control work undertaken in 1961 may be described in two sections as follows:

I. Anti-mosquito Measures.

II. Anti-malaria Measures.

I.—ANTI-MOSQUITO MEASURES

The control of malaria in settled areas of Tanganyika has continued to be mainly through measures directed towards reduction of the larval stages of mosquitoes, particularly the main vectors *Anopheles gambiae* and *funestus* and the principal nuisance mosquito, *Culex fatigans*. These methods include drainage and larviciding and are summarized thus:

(1) Anopheline larvicidal measures.
(2) Drainage works.
(3) Culicine control measures.
(4) Investigations of pesticides.
    (a) Tests of culicine larvicides.
    (b) Tests of pyrethrum formulations against adult mosquitoes.
(5) Mosquito and malaria surveys.

Each of these is now considered in detail.

(1) *Anopheline larvicidal measures*

Anti-anopheline measures carried out in towns, settlements and institutions continued to be based on the use of Malariol High Spread (b) or the newer (BD), the latter containing both DDT and BHC, applied by means of standard sprayers of knapsack pressure pattern, or in certain circumstances by hand sprayers or mixed with sand, sawdust or rice husks. In locations where oil larvicides might damage rice or fish farming, a powder larvicide containing BHC has been used, with a standard pattern of rotary blower for its application.

The larviciding programmes in force in Tanganyika in 1961 covered the following settlements:

Tanga Region	Tanga, Korogwe, Pangani, Handeni, Muheza, Mombo, Mnyusi, Pongwe, Amani, Mlingano.
Eastern Region	Dar es Salaam, Ukonga, Colito Barracks, Kisarawe, Kilosa, Bagamoyo, Morogoro, Kimamba, Mahenge, Utete, Ngerengere, Kingolwira and Wami Prison Farms.
Northern Region	Arusha, Tengeru, Mbulu, Moshi, Babati.
Central Region	Dodoma, Kongwa, Mpwapwa, Singida, Kondoa Irangi, Manyoni, Itigi.
Southern Region	Mtwara, Mikindani, Lindi, Masasi, Tunduru, Songea, Kilwa Kivinje, Kilwa Masoko, Nachingwea.
Southern Highlands Region	Mbeya, Iringa, Tukuyu, Chunya, Njombe, Malangali, Kyela.

Western Region	Tabora, Tabora Airport, Kigoma, Ujiji, Nzega, Kahama, Kasulu, Urambo.
Lake Region	Mwanza, Bwiru, Butimba, Shinyanga, Maswa, Musoma, Ngudu, Geita, Tarime, Nansio, Ukiriguru, Missungwe.
West Lake Region	Bukoba.

(2) *Drainage works*

Drainage and permanent works for the reduction of mosquito breeding sites were maintained in most of the settlements listed above. In addition, the following drainage surveys or works were carried out during the year:

Morogoro	Minor improvements to the Mohuma Swamp drain were made. A start was made to planting eucalyptus trees in the Mlali Swamp.
Arusha	Training of the Tami River was undertaken.
Tabora	Work continued on drainage of the Isevya area.
Nzega	7,300 feet of earth drains were excavated during the year.
Mwanza	Work continued on canalization in Kirumba, Mirongo and Nyakibungo areas. Lakeshore clearing was carried out at Mwanza south.
Bwiru and Butimba	Lakeshore clearing was carried out at these two places.
Bukoba	A comprehensive survey of drainage requirements was made.

(3) *Culicine control measures*

The control of the principal urban domestic nuisance mosquito *Culex fatigans*, with two of the safer organo-phosphorus insecticides was commenced at Morogoro, Kilosa and Korogwe. The early extension of this work to Iringa and possibly to Tanga is planned. These measures are designed to reduce mosquito breeding in domestic foul-water drainage systems.

(4) *Investigations of pesticides*

(a) *Tests of culicine larvicides.*

Tests of culicine larvicides throughout Morogoro Town have been continued from the previous year. Diazinon 60 EC has been used as the most economic formulation yet available. The object of this work is to review constantly the newer pesticides both as to formulation and method of application. Attention has been given to the economics of culicine control, and to the probability that the emergence of resistance to insecticides wil necessitate change of method of attack on the mosquito. In association with these tests, limited trials of dipterex are being continued.

(b) *Tests of pyrethrum formulations against adult mosquitoes.*

Six proprietary space spray insecticide formulations were tested against adult *Culex fatigans* mosquitoes at rates of 70 full strokes with a standard sprayer of 185 strokes with a newer model, per 1,000 cubic feet of air space. Knock-down of adult mosquitoes was observed over a period of ten minutes and compared with that effected by use of one per cent pyrethrum concentrate in kerosene applied under identical conditions. The tests were carried out in a specially constructed hut with hardboard walls and corrugated iron roof. The results showed that the standard sprayer generally used throughout the country was superior in performance to the newer modification, and that all six of the proprietary formulations of pyrethrum were inferior in knock-down effect to pyrethrum concentrate one per cent solution in kerosene as is generally recommended for use in Tanganyika.

(5) *Mosquito and malaria surveys*

Mosquito and malaria surveys were carried out during 1961 in a number of places, as follows:—

Western Region	Mkalinzi, Kirungwe, Mwiranvya, Uvinza, Ndala, Igalula, Useke, Kaliua, Bukene.
S. Highlands Region	Kyela, Tukuyu, Chunya, Mufindi, Kitwiru.
Central Region	Various dams: the report of this survey follows.

Malaria survey of dam sites in Dodoma District

This survey was carried out jointly with the Entomologist, East African Malaria Institute, Amani, the object being to obtain information concerning malaria conditions in the vicinity of dams and to trace by subsequent surveys the spread of that malaria in the surrounding dry countryside. The dams and dam sites surveyed were Ikowa, Hombolo, Chamwale, Kigwe, Kipanga, and Mlowa. Breeding of *Anopheles gambiae*, frequently of the four-banded type, was commonly found in foot and hoof prints and isolated pools beside the dams, but rarely in the water of the main dams. Although adults of *A. funestus* were taken occasionally in houses, larval stages were not found during this survey. In addition, at Ikowa *A. rufipes*, *A. squamosus*, *A. pharoensis* and *A. coustani* were taken breeding in irrigated plots below the dam.

Eastern Region ... ... Uluguru Mountains, Turiani. The reports of these mosquito surveys follow.

Mosquito survey in Uluguru Mountains

This survey was carried out (a) in order to classify culicine mosquitoes and add to the list of species recorded by earlier entomologists such as McHardy and Victor Harris, and (b) to study the role of anopheline mosquitoes as possible minor vectors at the higher altitudes. The culicines caught were identified in the Malaria Service laboratories or through the courtesy of Mrs. E. C. C. van Someren of the Medical Research Laboratory, Nairobi, and a report on the survey is included as an appendix to this Annual Report. The anophelines found were identified as *A. implexus* (Larval stage in swamp at Bunduki), this being the first recorded in the district; and *A. demeilloni*. The latter was taken in adult stage, blood fed in houses, and on the basis of precipitin tests the blood was established as being that of man. Although no gland infections were found in the very few specimens taken, this study is continuing.

Mosquito survey at Turiani

Following reports of the arrival of O'nyong-nyong virus disease at Turiani a survey of the mosquito fauna was carried out at the request of the Medical Specialist. Many species of anopheline and culicine were taken, identifications of which are as yet incomplete.

In addition to these surveys of mosquitoes and malaria, a more general medical survey was undertaken at the end of the year, and continues in 1962, in four zones along the Pangani River Development Scheme. Work included in the survey concerned the distribution of malaria and mosquitoes, and bilharzia and its vector snails, in the Lower Moshi, Naururu, Upper and Lower Mkomasi zones, the principal finding of interest being the spread of the vector of *Schistosoma mansoni*, *Biomphalaria pfeifferi*, down the Pangani River to Mkomasi.

II.—ANTI-MALARIA MEASURES

Among the anti-malaria measures carried out during 1961 were trials of suppressive drugs administered directly, or indirectly in the form of medicated salt. These trials may be summarized thus:—

(1) Mass suppression using a mixture of 4- and 8-aminoquinoline;
(2) Pyrimethamine susceptibility testing in Tanga Region;
(3) Medicated salt trial at Mto-wa-Mbu in Northern Region.

(1) *Mass suppression using a mixture of 4- and 8-aminoquinoline*

With the object of ascertaining the part played by drugs in a malaria eradication campaign, a trial was undertaken in 1960 under the auspices of the Ministry, and aided by the World Health Organization and Messrs. Parke, Davis Company. The drug tested was a mixture of a 4-aminoquinoline, amodiaquine, and an 8-aminoquinoline, primaquine, dispensed in a sweetened tablet popular with children. It was intended that the amodiaquine should destroy asexual forms of the parasite in man, while the primaquine would, by destroying gametocytes as well as liver forms of the parasite interfere with transmission to the mosquito. This trial continued into 1961, and was concluded in February.

At weekly intervals the mixture, given to adults at the dosage of 150 mg. amodiaquine and 30 mg. base primaquine, and to children at half those amounts, proved highly successful, parasite rates in man and sporozoite rates in the two principal vectors *Anopheles gambiae* and *A. funestus* being reduced to very low levels. A similar result was obtained at fortnightly intervals, but at monthly intervals between doses the trial was unsuccessful. The drug was given to several thousand people in each of three zones, Mlali near Morogoro (weekly treatment intervals), Chazi (fortnightly intervals for a trial of very brief duration), and Kidodi (monthly intervals). In the Kidodi area population movement and agricultural development interfered with the trial.

The results of this trial have been prepared in the form of a scientific article and await publication through the offices of the World Health Organization.

(2) *Pyrimethamine susceptibility testing in Tanga Region*

This is a continuation of the study of resistance on the part of *Plasmodium falciparum* in Tanga Region to the drug pyrimethamine, first noted in 1953. Mapping of the distribution of the resistant parasite continued into 1961, the degree of insusceptibility in the villages on the coast of the *region* being ascertained by the method of single-dose testing among children at primary schools. The results complete the table below which sets out the position during the 1960/61 biennium.

Percentage of *P. falciparum* that were resistant in 1960/61 to the following doses:

Place	*To 25 but not 75 mg. pyrimethamine*	*To 75 mg. pyrimethamine*	*Sensitive to both doses*
(a) Western belt of villages:	%	%	%
Korogwe	5	4	91
Mombo	5	4	91
Sindeni	7	0	93
Handeni	0	0	100
Kwamkono	2	0	98
Maramba	15	9	76
Kwata	10	4	86
Ntalanwanda	7	3	90
Kwasunga	7	1	92
Makuyuni	17	12	71
Gereza East	3	6	91
Kerenge	9	9	82
Mashewa	18	6	76
Vuga/Kigongoi	11	5	84
Mnyusi	7	0	93
(b) Central belt of villages:			
Amani	0	20	80
Kiwanda	13	13	74
Ubembe	15	20	65
Lusanga/Kwa Butu	33	7	60
Enzi	23	11	66
Kilulu	30	4	66
Mtindiro	11	13	76
Mkuzi	0	33	67
Bwembwera	16	7	77
Ngomeni	11	23	66
Kicheba/Mlingoti	21	21	58
(c) Eastern belt of villages:			
Pongwe	4	0	96
Amboni	15	3	82
Mwakidila	1	6	93
Tongoni	0	4	96
Pangani	0	11	89

(3) *Medical salt trial at Mto-wa-Mbu in Northern Region*

The preliminary malariometric and entomological studies for a trial of medicated salt were undertaken at Mto-wa-Mbu during the year, and the first batches of common salt, supplied through a single wholesale agency in Arusha, were treated with a commercial preparation of chloroquine at a dosage of 30 mg., chloroquine base to 10 grams common salt. At the end of the year the bags of salt mixed with the anti-malarial compound were distributed to the shops at Mto-wa-Mbu. Owing to the rock-like nature of the salt consumed, crushing operations by hand were a necessary preliminary to mixing with the fine form of chloroquine, which had been specially coated to prevent leaching. Samples of the mixture were taken and dispatched to the manufacturer for analysis.

Malaria is holoendemic at Mto-wa-Mbu and various methods tried in previous years for its control have been unsuccessful. Following the analysis of various factors such as the average consumption of cooking salt per person, it has appeared likely that the indirect method of supplying suppressive prophylaxis through medicated salt may be useful. The trial is being undertaken by the Ministry of Health and Labour aided by the World Health Organization; the chloroquine used is being purchased and not supplied free by the manufacturer. Much of the work is being undertaken by the District Medical Officer, Masai, and staff of the District Health Office, Arusha.

13.4. BILHARZIA

In addition to its malaria control work the Malaria Service also concerns itself with measures for the control of bilharzia.

Studies of the snail vectors of this disease were continued by the Entomologist in association with the Bilharzia Team of the East African Institute for Medical Research. These studies included investigations into the ecology of snails, particularly those responsible for the transmission of *Schistosoma mansoni*, and into methods for their control by the use of molluscicides.

The two principal vectors of *S. mansoni* in the Lake Victoria area appear to be *Biomphalaria sudanica tanganyicensis*, studies of the life cycle of which were made in rivers particularly the Mironga leading into the lake at Mwanza, and *B. choanomphala choanomphala*, which lives preferably at depths of two to three feet of water in the lake itself. The latter snail is dredged from the lake, and has been found to shed cercariae which, when introduced to mice, developed into typical *S. mansoni* parasites. It is considered, on the basis of the studies, that this snail is more likely to be responsible for the frequency of bilharzia caused by *S. mansoni* among the lake shore dwellers than is *B. sudenica.* However, on a visit to Ukerewe and Ukara Islands in the lake, the Entomoligist found *Biomphalaria pfeifferi* predominating, this species of course being the principal vector in the Northern Region.

Experiments were carried out with the vectors of *S. haematobium*, *Bulinus* (*Physopsis*) *nasutus productus*, to mark the snails with radio-active Cobalt 60. The life of the snails did not appear to be shortened, and studies were made on the progressive loss of radio-activity, a fifth of the original dose disappearing over six months. This technique will prove useful for further population studies of bilharzia vectors.

Laboratory trials and field trials were undertaken to test the efficacy of new molluscicides, not only in relation to their lethal activity among snails, but also their safety with valuable fish. A new pesticide, "Sevin" (1-naphthyl-N-methylcarbamate), was examined, and found to be more effective in low than in high doses against *Biomphalaria sudanica.* These studies continue into 1962.

14. DENTAL SERVICE

14.1. The staff position in 1961 was less favourable than in 1960. The departure of two dental surgeons, whom it was not possible to replace, necessitated the closure of government dental units in Mbeya and Tanga, so that the government dental service, as far as dental surgeons was concerned, was concentrated in Dar es Salaam. Even in Dar es Salaam, with the absence of one dental surgeon on leave for much of the year (not the same one throughout the year) it was necessary for the Dental Department of the Princess Margaret Hospital to be run on a part-time basis.

14.2. Fortunately, it was possible to continue the contract arrangements with private practitioners already in force in Arusha, Dodoma and Mwanza and, after some difficulty, to make a similar arrangement in Tanga.

14.3. Dental Assistants continue to carry out their duties successfully although it has been found that after an initial "rush" there is not an overwhelming demand for their services; in most centres they see an average of ten patients per day.

14.4. Arrangements for the upgrading course which will permit the better Dental Assistants to qualify as Assistant Dental Officers, are going ahead.

15. THE SLEEPING SICKNESS SERVICE

15.1. The service remained under the charge of the Sleeping Sickness Specialist, stationed at Tabora, until his departure on premature retirement in July. Thereafter control of the service was combined with his other duties by the Regional Medical Officer, Western Region.

Reported Incidence, 1957–1961

	1957	1958	1959	1960	1961
New Cases	411	555	827	825	765
Deaths	91	67	84	88	74
Mortality per cent	22·1	12·0	10·1	10·6	9·7

15.2. There is a slight improvement in the incidence, the total number of cases being this year less than in 1959 and 1960. Most pleasing is, however, the further decrease in mortality, which is for the first time below 10 per cent, and the fact that none of the children reported sick this year have died.

With regard to the incidence in all regions, there was a marked decrease in the West Lake Region from 305 in 1960 to 184 this year and in the Eastern Region from 70 to 30 cases. The total number of cases in the Western Region was 388, as compared with 334 in 1960. Although there were fewer cases in other districts of the region there was a sharp increase of cases in the Kibondo District from 61 in 1960 to 191 this year. The figures from other regions were: East Lake 3 in 1960, 10 in 1961; Northern 22 in 1960, 53 in 1961; Southern 89 in 1960, 99 in 1961. A single case in the Singida District of the Central Region should be noted where previously there were no cases.

It appears there is still a long way to go before the incidence is so low as to cause self-extinction of this disease. As with many other diseases the preventive services are lagging far behind the curative, although the fact that 90 per cent of chronic cases, which were in the the past incurable, can be cured now with new drugs, thus reducing the pool of infection, should not be underestimated.

The pressure of population is bound on the other hand to increase and we may have some difficulty in maintaining the settlement areas—usually a demand to enter an overcrowded settlement area or sometimes a tendency to break out of it.

15.3. The Western Region

District	1957	1958	1959	1960	1961
Kasulu	25	121	155	96	82
Kibondo	21	16	33	61	191
Kahama	47	29	31	23	16
Tabora	82	47	58	68	32
Kigoma	40	36	41	20	19
Nzega	–	5	2	–	–
Mpanda	6	23	32	59	45
Ufipa	–	–	1	6	3
	221	277	353	334	388

There was a decrease of cases in all districts with the exception of Kibondo District, where there were 191 new cases this year and only 61 last year. The tendency to increase already began a few years earlier; 16 cases in 1958, 33 cases in 1959. Most of the cases again occurred among honey collectors and hunters in the east and south-east part of the district around Nyaviumbu area which is about 10–15 miles from Kibondo itself. The honey season this year was exceptionally good and grass burning was incomplete, for various reasons, leaving large areas overgrown which encouraged fly breeding. All attempts to control the honey collectors failed and sometimes there were many hundreds of them roaming the fly-infested areas. The peak was reached in August with 37 new cases, but luckily the incidence dropped at the end of the year with only six new cases reported during November.

In Kasulu District there was a slight improvement with 82 cases this year and 96 during 1960. The peak was reached in October with 14 new cases. Most of the cases occurred in the western and north-western parts of the district near the borders of Urundi. The local authority allocated £3,000 for bush clearing and a considerable amount of useful work was carried out. Many square miles of bush were cleared, new boundaries of settlements demarcated, and a number of secondary roads and bridges improved. Contact was made with the authorities of Urundi after it had been discovered that some of the patients attending for treatment at Migongo dispensary actually came from across the Urundi border.

There were only 19 cases this year and 21 cases last year in Kigoma District. These include two cases from the Kaungu area, however, which was in the past a focus of *G. palpalis* and *T. gambiense*. During the last three years there have been no cases from this area, which is about 30 miles north of Kigoma along the shores of Lake Tanganyika. Arrangements will now have to be made for a blood slide survey, the spraying of the area to eradicate *G. palpalis* and the administration of prophylatic pentamidine, which was successful in the past.

There is a definite risk of the fly spreading from the Congo in the north and Ruanda-Urundi and the latest finding in Usoga in Uganda that *G. palpalis* has transmitted *T. rhodesiense* makes it even more necessary to keep a watch over this part of the district.

There were 45 cases in Mpanda District this year and 59 last year. Most of the cases occurred north of Mpanda towards the border of Tabora District, in the area where the Mpanda railway line crosses the Ugalla river and along the main road to Uvinza. As in other areas a considerable number of cases occurred in honey collectors.

There was a considerable decrease of cases in Tabora District, with 32 cases this year and 68 during 1960. Most of the cases occurred in the north-west part of the district, along the Igombe River where there are ample opportunities for hunting, fishing and honey collecting.

There were only 16 cases in Kahama District this year, compared with 23 last year. Most of the cases occurred in the southern part of the district, bordering on Tabora District. For many years this area has been quiet with few cases, but recently some anxiety has been felt owing to a tendency of people to move out from the safe settlement areas. After lengthy deliberations the Kahama African Council has adopted Sleeping Sickness Rules similar to those in Kibondo and Kasulu which should prevent unauthorized movement of the population.

There were only three cases in Ufipa District and none in Nzega District.

15.4. West Lake Region

District	1957	1958	1959	1960	1961
Biharamulo	26	71	102	53	72
Ngara	26	40	85	216	54
Bukoba	6	5	5	–	1
Karagwe	–	18	64	36	57
	58	134	256	305	184

There was a very marked decrease in cases in this region, 305 in 1960, 184 this year. Sleeping Sickness occurred in three out of four districts, Bukoba being the exception. Ngara District was the worst last year with 216 cases—this year, however, there was a marked decrease with only 54 cases. Most of the cases occurred in Nyamiaga and Kirusya sub-chiefdoms of Bugufi chiefdom, which comprises the northern part of the district. The large clearings and spraying which were started last year continued this year and the latest reports indicate a great reduction in fly densities. In the southern part of the district in Bushubi chiefdom some cases occur as well, but there the problem is the decline of the population with little tendency to planned settlement.

There was an increase in the number of cases in Biharamulo District from 53 last year to 72 this year. Most cases came from the Runazi-Bwanga-Nyamirembe area south-east and east towards Geita District. There were only ten cases last year but 26 cases this year around Runazi itself. The population of this area lives in a number of settlements separated by large areas of infected bush. With the dwindling population in this district it is difficult to prevent regeneration of the bush in the areas which were cleared in the past. The exception to this situation is the lake shore area where intensive Sukuma immigration and settlement is occurring. Anti-tsetse measures in this area to help the new settlers are under consideration.

There was also an increase in the number of cases in Karagwe District, from 36 last year to 57 this year. The main focus is in the Nyabionza area, where it occurs along the fringes of the settlement. Most of the cases occur in hunters and fishermen who probably contract the disease away from their homes. All new cases are treated in the Nyabionza Church of Sweden Hospital which is about six miles from Karagwe. Relapses are treated at Nyabionza local authority dispensary.

15.5. LAKE REGION

District	1957	1958	1959	1960	1961
Geita	3	4	11	3	2
Mwanza	10	6	2	–	1
Maswa	33	48	23	–	2
North Mara	1	–	–	–	2
South Mara	–	–	–	–	–
Ukerewe	–	–	–	–	3
	47	58	36	3	10

As can be seen from the above figures there is little sleeping sickness in this region. Maswa District had only two cases, but there were two new cases in the North Mara District on the border of Kenya, and three cases on Ukerewe Island.

15.6. NORTHERN REGION

District	1957	1958	1959	1960	1961
Mbulu	17	5	49	20	49
Arusha	4	2	–	1	1
Masailand	1	22	–	1	3
Kilimanjaro	1	1	–	–	–
	23	30	49	22	53

There was a marked increase in the number of cases from 22 last year to 53 this year. Of these 49 occurred in the Mbulu District, mainly in the Magugu area where there were 44 new cases. This is a narrow strip bordered in the south by the Sangami hills and to the north by the cleared belt protecting the Great North Road. During August large scale clearing commenced in the area and at the end of the year the density of tsetse flies was apparently reduced by 50 per cent. The peak was reached in June with 11 cases, but there was only one case in November.

15.7. EASTERN REGION

District	1957	1958	1959	1960	1961
Ulanga	23	17	31	70	30

The only area with sleeping sickness is in the Ulanga District and there was a marked improvement this year, with only 30 cases, as compared with 70 last year. Most of the cases came from the south-west part of the district towards the border of Songea District. The density of population is very low in this vast area of many hundreds of square miles and control measures have to be confined mainly to case finding. Most of the cases (23) occurred around Kilosa kwa Mpepo and Malinyi.

15.8. SOUTHERN REGION

District	1957	1958	1959	1960	1961
Masasi	2	3	2	1	–
Tunduru	1	4	18	13	19
Nachingwea	35	29	78	73	77
Songea	–	–	1	2	1
Newala	–	2	–	–	–
Lindi	–	–	–	–	2
	38	38	99	89	99

The position has not changed much although this year again there is a slight increase in cases. The bulk of these came from an area in Nachingwea District west of Nachingwea and south of Liwale around Kilimarondo. Out of a total of 99 cases, 77 came from this area. Most of the cases reported sick during April, May and June. In addition there are a few scattered foci in Tunduru District.

15.9. The Rest of Tanganyika

There was only one case reported in the Singida District of Central Region, otherwise other regions (Tanga and Southern Highlands) were free from sleeping sickness.

15.10. Clinical Investigational Work

The trials of new drugs, which continued until the departure of the Sleeping Sicknes Specialist, have produced disappointing results and at present there is no better substitute for Antrypol for acute cases and Mel B for chronic ones.

16. THE PSYCHIATRIC SERVICE

16.1. Mirembe Hospital

16.1.1. The number of patients remaining in Mirembe Hospital at the end of 1961 was 787. This is an increase of 100 over the corresponding figure for 1960 and is far and away the highest yet attained.

There was a slight increase in the number admitted to the hospital—616 compared with 603 in 1961. The distribution was much the same—477 being admitted under certificate, 93 under observation and 46 as voluntary patients.

The number of discharges—458—was also slightly greater than the corresponding figure for 1960—444. It should be noted, however, that this high discharge rate is at least in part due to the necessity for the discharge of patients before they are really fit, in order to cope with the pressure of new admissions.

Only five patients were transferred to the Mental Hospital at Lutindi and two were transferred to the Isanga Institution for Special Category Mental Patients.

Four escapes from Mirembe were notified during the year, compared with 14 in 1960, but this presents a slightly misleading picture as in addition there were a number who absconded from the hospital premises or working parties, chiefly from the latter, and were brought back within a very short time by Police, local residents or hospital staff. It should be noted that Mirembe is an almost completely "open" hospital.

16.1.2. The new drainage system at Mirembe continued to give trouble, as did the water supply, the latter due to a main of too small a diameter to cope with the enhanced hospital demand and the former due to periodic inability of the sewage pumps to cope with the sewage sump, which then has to be emptied manually.

Three new wards were completed and opened during the year and these fortunately have a separate, and satisfactory water supply. They do, however, increase still further the pressure on the sewage disposal system.

In spite of this additional accommodation, it was necessary to retain the male dining room as a temporary dormitory, to which it was temporarily converted in November, 1960. Kitchen arrangements also are under considerable pressure and are unsatisfactory.

16.1.3. As in previous years, it was found that the most effective lines of treatment were electro-convulsive therapy and chlorpromazine, used singly and in combination, and occupational therapy. Occupational therapy, which has been found to be of particular value, included the growing of beans, groundnuts, bananas, cassava, maize, sweet potatoes, green vegetables and tomatoes, the husbandry of pigs and chickens, carpentry, masonry, tailoring and mattress making and repairing. Unfortunately, it was necessary to discontinue the animal husbandry part of this therapy during the year due to opposition on the part of staff.

16.2. ISANGA INSTITUTION

16.2.1. The Isanga Institution continued under the control of the Ministry of Health and Labour and towards the end of the year responsibility for legal matters relating to Special Category Mental Patients passed from the Ministry of Home Affairs to this Ministry.

There remained in Isanga at the end of 1961, a total of 256 patients compared with 236 at the end of 1960. Two new wards, providing an additional 30 beds, have been built so that there is no overcrowding in spite of this increase, but the rising admission rate gives little cause for hope that this desirable state of affairs will continue. Admissions during the year totalled 102, of which 30 were Category "B" and 13 Category "C" patients: in 1960, 19 Category "B" and 8 Category "C" patients were admitted. On the other hand 65 patients were discharged, compared with 36 in 1960: of these 17 were transferred to Mirembe Hospital and 39 were returned to prison, some to complete their sentences, others to stand trial.

There were two male escapes during the year, one broke out through the roof and over the wall and the other escaped from an Isanga staff escort while at Mirembe Hospital.

A number of patients were found to be suffering from an iron deficiency anaemia. This rapidly responded to treatment. Early in the year there was an outbreak of dysentery which was rapidly brought under control. Otherwise the general health was good.

16.2.2. Treatment in Isanga was on the same lines as in Mirembe, with equally good results. Some 95 per cent of patients have engaged in some form of occupational therapy, comprising work of some sort in the morning and recreation, games, walks and dancing in the afternoon. Recreation has included football matches between teams of patients from Mirembe and Isanga. On the female side, in particular, the replacement of prison type clothing by bright coloured gowns and the painting of ward doors, etc., in cheerful colours, has resultsd in a considerable decrease in the destruction of clothes and defacement of buildings.

17. THE PATHOLOGY LABORATORY SERVICE

17.1. A full report on this Service is published separately; its salient points are given hereunder.

17.2. The general organization and staffing of the Laboratory service remained unaltered, but there was increasing emphasis on the training of senior African staff with a view to the replacement of the expatriate technologists by Africans at an early date. It is pleasing to record that the three Laboratory Assistants sent to the United Kingdom on a bursary have all passed their first (Intermediate) examination for the A.I.M.L.T., two of them at the first attempt, within two months of arriving in England, and the third at the second attempt. These results speak well for the intensive training they had received in Dar es Salaam prior to their departure.

Local training results were less satisfactory—the Technologist Training Grade candidate was referred for a further nine months' study and while three out of four student laboratory assistants passed their final examination, three out of four second-year students failed their "end of year" examinations.

17.3. The demand for diognostic bacteriology continued to fall, the number of specimens submitted for cultural examination being 12 per cent less than in 1960: on the other hand the number of isolations of actual or potential pathogens increased by 30 per cent, reflecting either more discrimination by clinicians in requesting these tests or increased efficiency in the procuring and transporting to the laboratory of specimens and increased competence on the part of the laboratory staff concerned. It is probable that all three factors are involved.

Sensitivity tests to common antibiotics were carried out on all pathogens and it is interesting and disturbing to note that 75 per cent of the strains of Staph. aureous isolated were resistant to penicillin.

17.4. The inability of the service to cope with sputum culture and sensitivity tests for the large number of tuberculosis patients being brought under treatment, as mentioned in the Report for 1960, gave cause for concern and arrangements are in hand for the expansion of tuberculosis bacteriology facilities with help from W.H.O. and U.N.I.C.E.F.

17.5. The tissue-culture laboratory for virology which was set up late in 1960 encountered "teething" troubles and was still not fully active at the end of 1961. Good progress is being made however.

Virus isolations on fertile hen eggs continued successfully and in mid-year a strain of influenza virus was isolated during a local outbreak. Strains of variola virus were isolated from smallpox outbreaks in Dar es Salaam, Morogoro and Moshi.

17.6. The decrease in demand for general serology noted last year did not continue and there was a 15 per cent increase in 1961. With increasing demand and pressure on staff it has been necessary to omit the time consuming Wasserman reaction from the battery of tests used in the diagnosis of serological syphilis. Preliminary work was carried out on a new test, the Fluorescent Treponeman Antibody test which is believed to be highly specific and which is technically simple; staff difficulties, however, did not permit of its introduction as a routine test in 1961.

17.7. The demand for histopathological study of surgical biopsy specimens continued to increase, 2,893 specimens being examined. The malignancy picture remains fairly stable; the lymphoma group of neoplasm continues to account for more than half the malignant tumours coming to biopsy in children.

17.8. The demand for transfusion and pregnancy serology and for general haematology showed no signs of decline. The former, which is particularly likely to arise as an emergency out of normal hours when skilled staff may not be readily available, was simplified by the use of "Eldoncards" which have proved to be of great value.

17.9. It is disturbing, particularly in view of proposed improved facilities and rising standards of medical training, to report a steady decline in the number of clinical post-mortem examinations. It will be necessary to overcome the very real opposition of the general public to post-mortem examination of relatives if Dar es Salaam is to take the place planned for it as a centre of clinical teaching and research.

17.10. The laboratory continued to play its part in public health bacteriology, including regular examination of the Dar es Salaam water supply; regarding the latter, 6 per cent of specimens were found to be contaminated.

17.11. The Central Laboratory and the nine regional laboratories remained responsible for the storage and issue of viable and labile vaccines. Demand for the common vaccines remained at much the same level as in 1960 but showed in every case except that of rabies vaccine, a tendency to increase. During the year 411 courses of the latter were issued compared with 481 in 1960.

18. MEDICAL STORES AND SUPPLIES

18.1. Central Medical Stores

18.1.1. The volume of work of the store continued to show a steady increase. In spite of this, with the introduction of machine accounting in July, it was found possible to operate an improved system of stock control.

18.1.2. Staff shortage continued to be a problem, although eased somewhat by the attachment to the Store of the Hospital Stewards' Assistants in training, but this obviously cannot be looked on as a source of assistance for routine duties.

18.1.3. The transfer to the Stores of the Hospital Stewards' Assistants was in accordance with the present policy that all stores services and staff in the Ministry, whether in Central Medical Stores or in peripheral hospitals, should come under the control of the Chief Storekeeper, whose title has now been changed to Supplies Officer. The unification of the Central and hospital stores services with the disappearance of the title of Hospital Steward and Hospital Stewards' Assistant, will make for a more flexible service and one providing better promotional opportunities, so that it can be hoped that the tendency of the ambitious and able members of the staff to seek a transfer to larger units will disappear.

18.1.4. A continuing increase in consumption of stores, not accompanied by a corresponding increase in funds available for purchase of replacements, resulted in a steady rundown of stores reserves. As one measure to combat this it has been decided that where practicable, stores will be purchased by local tender, the successful tenderer being required to hold adequate stocks to permit him to supply normal indents on demand.

18.1.5. One of the major problems in Medical Stores supply in Tanganyika is internal transport, and 1961 was a particularly bad year for this due to exceptionally heavy rains which disrupted road, rail, and on occasion even air transport services. Even so no serious supply breakdown occurred and essential stocks were maintained in all hospitals.

18.2. Pharmaceutical Services

18.2.1. Pharmaceutical services continued smoothly throughout 1961, the staffing situation being reasonably satisfactory over the country as a whole. It has been the policy to post two pharmaceutical assistants to each of the larger hospitals, although it has not always been possible to implement this.

18.2.2. The staff was augmented by three new pharmaceutical assistants who qualified at the end of 1960; as is customary they spent their first post-graduate year in Dar es Salaam. The staff position as at December, 1961, was as follows:

Pharmacists	3
Assistant Pharmacists...	3
Senior Pharmaceutical Assistants and Pharmaceutical Assistants	39
Compounders	2
	47

Assistant Pharmacists are a new category, created by the promotion of the best of the more senior Pharmaceutical Assistants.

18.2.3. A considerable amount of work has been performed in conjunction with the Legal Department in the framing of the new Poisons Rules. When these are finalized the long-awaited new Pharmacy and Poisons Ordinance can come into effect. There has also been liaison with the Criminal Investigation Department of the Tanganyika Police in examining evidence in a number of cases of alleged breaches of regulations. Co-operation with the Customs authorities has continued throughout the year in the examination of consignments of medical supplies and chemicals to voluntary agencies and other concerns.

18.2.4. The number of Import Licences for Dangerous Drugs issued during the year has shown a slight increase, being just over thirty, whereas in the past it has usually been rather less. Only two export licences have been issued in 1961 compared with three in 1960. The main items consumed are Opium in the form of preparations, morphine and pethidine. The other items covered by the regulations are used only in insignificant quantities.

Importation figures—Dangerous Drugs

	1958 Kgs.	1959 Kgs.	1960 Kgs.	1961 Kgs.
Opium in the form of preparations	7·6	15·7	7·1	12·2
Morphine	0·394	0·552	0·907	0·85
Pethidine	5·135	5·098	7·22	8·08

The apparent fluctuation in the figures for opium in the form of preparations is illusory. The reason for the differences between alternate years is that the main item coming under this heading is a concentrate to make Tincture of Opium, imported by Central Medical Stores. It comes in batches of 6 Kgs. each and six such batches have been received over the past four years. In practice actual consumption is fairly constant. The most important point arising from these figures is that there appears to be a significant upward trend in the use of morphine and pethidine over the country as a whole.

19. REPORTS OF THE CLINICAL SPECIALISTS

19.1. Medical Specialists

19.1.1. Towards the end of 1960 the medical division was strengthened by the appointment of a paediatric specialist. Two medical officers acted as medical registrars and there was an adequate number of interns for the efficient functioning of all three medical units at the Princess Margaret Hospital.

19.1.2. Extensive touring was carried out by the Paediatric Specialist during the first half of the year, but the other Medical Specialists were not able to tour apart from an occasional visit to Chazi Leprosarium.

19.1.3. The much improved facilities provided by the Princess Margaret Hospital have assisted clinical research. An investigation into the cause and treatment of anaemia has been carried out and a report submitted for publication. Investigation was made, in conjunction with the Nutrition Officer, into an increase in the incidence of pellagra, attributed to increasing consumption of "sembe", a highly refined maize meal.

19.2. Surgical Specialists

19.2.1. Although there were changes of personnel, there were, throughout the year, two surgical teams working in Dar es Salaam, and for a short time three such teams existed. Two medical officers were attached to the surgical division as registrars. There was an adequate number of interns to provide a full resident staff.

19.2.2. The better theatre and ward facilities at the Princess Margaret Hospital have eased the work of the division and enabled it to carry out a much larger volume of work than in 1960. During 1961, 3,993 operations took place in the main theatres and 2,329 in the out-patient clinics of the Princess Margaret Hospital; the corresponding figures for 1960 were 3,031 and 745.

19.2.3. Amongst the cases of interest reported are pericardiectomy in a case of constructive pericarditis, with return of heart compensation; a case of spontaneous cerebro-spinal rhinorrhoea dealt with successfully by frontal osteoplastic flap and insertion of a draft of fascia lata; and in conjunction with the Dental Department the rebuilding of a man's face which had been partially torn away by a falling wall, by reconstruction of the mandible and multiple pedicle grafts.

19.3. Specialist Obstetrics and Gynaecology

19.3.1. This division was set up as a separate unit under a specialist early in the year. The specialist was assisted by three medical officers.

19.3.2. The demand for gynaecological treatment was far in excess of the accommodation available, and for non-urgent conditions, e.g. investigation of fertility, it was necessary to set up a waiting list which lengthened rapidly.

19.3.3. The maternity side was equally busy, an average of well over 300 deliveries a month being recorded in the Muhimbili maternity unit.

19.4. Radiological Specialist

19.4.1. The Specialist Radiologist was stationed in Dar es Salaam throughout the year.

19.4.2. There were no major additions to equipment and all machines continued to function reasonably satisfactorily.

19.4.3. The work of the Department in Dar es Salaam continued to expand; the number of patients examined in 1961 was slightly more than double the total for 1960.

19.5. Ophthalmic Specialist

The Ophthalmic Specialist departed on leave pending retirement on 4th January, 1961. Recruitment of a replacement did not prove possible during the year and as an interim measure an arrangement was made with a private ophthalmologist whereby his services were made available on a sessional basis.

19.6. Specialist Anaesthetist

The Specialist Anaesthetist and his first assistant both departed on premature retirement towards the end of October, 1961, but adequate replacements were fortunately available or in view.

20. TRAINING OF PERSONNEL

20.1. During the year there was a considerable intensification of the training programme, additional courses being added and special arrangements made to permit categories of staff not normally eligible to attend courses with a view to qualifying for promotion. The Rural

Health Training Centre at Ifakara opened on schedule in July and a very successful course was held. As a result of experience gained during this course consideration is being given to utilizing this centre as part of the training course of a higher category of staff than Rural Medical Aids, whose standard of education is such that they are unable to benefit fully from the facilities offered by the centre.

20.2. ASSISTANT MEDICAL OFFICERS

Selected candidates from the Senior Medical Assistant/Medical Assistant cadre, 20 in number, commenced a course of instruction with a view to their upgrading to Assistant Medical Officer status in due course. In addition, plans were discussed for the replacement of the present course of training of Medical Assistants by a course leading to qualification as Assistant Medical Officers. It is proposed that this course shall be of four years' duration, followed by one year's rotating internship, that is a total of five years, and that the educational standard for entry shall be school certificate for the first year or two and thereafter higher school certificate with passes in the pre-medical sciences.

20.3. MEDICAL ASSISTANTS

During 1961, a total of 27 trained medical assistants, 20 from the Princess Margaret Training Centre and 7 from the Lutheran Training Centre, Bumbuli, successfully completed their course of training. The intake to the Princess Margaret Training Centre in this cadre numbered only 19, due principally to the very great expansion of facilities for education to school certificate level so that there was, to all intents and purposes, no output of Std. X pupils at the end of 1960; wastage also was considerable, due to the wide field open to educated youths, and at the end of 1961 only nine students remained to complete the first year of training. In partial compensation for this, arrangements were made for seven outstanding Rural Medical Aids to join the second year of the Medical Assistants course at the beginning of 1961 with a view to sitting the Medical Assistants qualifying examination after two years' training, similarly arrangements were made for 19 of the best Rural Medical Aids qualifying at the end of 1961 to enter the second year of the Medical Assistant course in 1962. Nine of the 1961 second-year students did not complete the year successfully and will be required to repeat it, so that in 1962 there will be a total of 37 second-year Medical Assistant students.

20.4. HEALTH INSPECTORS

The first five training grade Health Inspectors all successfully completed their course of training in April and were promoted to substantive rank. There was a second intake of five Assistant Health Inspectors for this upgrading course early in the year and a third intake of eleven, ten in government employment and one an employee of the Dar es Salaam City Council, was selected in September.

20.5. ASSISTANT HEALTH INSPECTORS

There was no direct intake of trainee Assistant Health Inspectors during the year. It is intended that there shall be no further intakes in this cadre; in 1962, when adequate numbers of school certificate boys become available from the schools, a course for the training of direct entry health inspectors will start. In the meantime the efforts of the school will be concentrated on upgrading courses for existing Assistant Health Inspectors and completing the training of those potential Assistant Health Inspectors already under instruction. Senior experienced sanitary inspectors were permitted to join the second year of the Assistant Health Inspector course to give them an opportunity of qualifying for the higher post—the post of sanitary inspector is obsolescent and no promotion posts are normally open to members of this cadre.

20.6. HOSPITAL STEWARDS' ASSISTANTS

There was an intake of nine students for training in this cadre. Training arrangements were reviewed and it has been decided that titles of Hospital Steward and Hospital Stewards' Assistant shall disappear, there being complete integration of Hospital Stores and Central Medical Stores staff, all such staff coming under the control of the Supplies Officer who will be responsible for overseeing their training. Pre-service training will be shorter but there will be increased emphasis on in-service training.

20.7. OTHER ASSISTANT GRADES

There was no intake to the grade of Dental Assistant, Pharmaceutical Assistant and Laboratory Assistant during the year for the same reason as mentioned in para. 20.3. One Dental Assistant, four Laboratory Assistants and three Pharmaceutical Assistants completed their training successfully.

20.8. RURAL MEDICAL AIDS

This year saw the closure of the Mission Training Centre for Rural Medical Aids at Minaki, leaving only two main training centres for this cadre, the government centre at Mwanza and a mission centre at Mnero. There was an intake of 42 students to the Mwanza centre at the beginning of the year and, as in the past, the second-year students from Mwanza were dispersed to the various regional training centres. A total of 74 candidates appeared for the final examination in December, of whom 56 were successful. A number who failed only in pathology were permitted to try again after a short intensive course of one month's duration when they all passed.

20.9. NURSES

There were 237 nursing students in training in the Princess Margaret School of Nursing during 1961. The new intake of student nurses at the beginning of the year showed a satisfactory predominance of girls, 40 as against 25 boys. A total of 38 students completed their training successfully, out of 46 who attempted the final examinations of the Tanganyika Nursing Council in November. In addition, 36 midwifery students sat the Midwifery and Child Welfare examination; all but one were successful.

During the year the training school was examined by Miss Houghton on behalf of the General Nursing Council for England and Wales. She was able to recommend that nurses trained in the school, who commenced their course of training in or after January, 1959, should be permitted to sit for the State Registered Nurse qualification of the General Nursing Council after one year of further training in the United Kingdom, instead of two years as at present. It is hoped to be able to take full advantage of this concession by sending a number of girls for such training in 1962 and 1963.

In the meantime, a course for the upgrading of experienced nurses, who do not qualify for such a concession, has been formed. Thirty trained nurses were selected for the course and at the end of the year they were making very satisfactory progress. The Tanganyika Nursing Council has decided that members of this course will be examined periodically by a Board of Assessors and that when they reach the required standard these nurses will be registered in Part "A" of the Board's Register.

Considerable thought was given during the year to the whole question of nursing training, and it was decided to revise the nursing syllabus to include the elements of public health nursing, health education and midwifery in the basic course. The normal educational standard of entry for the course will in future be Std. X. At the end of three years students will be examined and those successful will qualify for entry in Part "B" of the Register. The best students will receive a further year of instruction on the successful completion of which they will qualify for Part "A" of the Nurses' Register.

20.10. HEALTH NURSES

As a result of the programme outlined above, the cadre of health nurse, which has not been a success, becomes redundant. The Health Nurse training school at Tukuyu closed at the end of the year and it is intended that the second-year health nurse students from both Tanga and Tukuyu should now join the general nursing course as revised. The Health Nurse training school at Tanga will, from 1962, function as a school for the revised general nursing course.

20.11. VILLAGE MIDWIVES

The programme for the training of village midwives continued with varying success. Difficulty has been experienced in some schools in obtaining suitable candidates for training. It would be easy to fill the vacancies with young girls straight from school, but such persons, even if they complete their training successfully, have little or no standing in their community. It is desirable that a woman for training as a village midwife should be of some maturity and preferably a woman who has already had children of her own.

21. THE MEDICAL SERVICES PROVIDED BY VOLUNTARY AGENCIES

21.1. The Christian Churches and Missions continued to play an invaluable part in the medical services of the country, financing their work largely by their own funds and by the charging of fees, but assisted by government subsidies, both in the form of direct cash grants and by the provision of drugs, etc., for treatment of tuberculosis and leprosy. Cash subsidization of the voluntary agencies has shown a steady increase over the years, although the rate of increase has not kept pace with the increasing costs and an increasing demand for medical services. A summary of the amounts paid by Government in the form of direct subsidies over the past five years is given below:

	1956/57	1957/58	1958/59	1959/60	1960/61
	£	£	£	£	£
Staff Grants	71,335	79,350	83,235	86,228	97,061
Training Grants	14,195	16,636	18,272	22,888	24,672
Hospital Additional Grants ...	20,597	25,670	27,372	27,648	29,539
	106,127	121,656	128,879	136,764	151,272

21.2. A brief account of the medical work carried out in each region by the Voluntary Agencies during 1961 is given hereunder.

21.3. Central Region

21.3.1. Medical work in this region is carried out by the Church Missionary Society, the Augustana Lutheran Mission and the Medical Missionaries of Mary.

21.3.2. The Church Missionary Society had, at the beginning of 1961, major hospitals at Mvumi (Dodoma District) and Kilimatinde (Manyoni District), a leprosarium at Makatapora, and bedded dispensaries at Kongwa, Mpwapwa and Buigiri. Mvumi Hospital reports that enteric fever in its area reached almost epidemic proportions during the year, while both there and at Kilimatinde bacillary dysentery was a major problem. A block of six private (Grade I) wards was completed and put into service at Mvumi, as were a new suite of labour wards and a new laboratory; the whole hospital is now served by water-borne sanitation.

Mvumi is a nurses and midwives training centre and maintained its high standard of past years, all but one of its candidates passing their qualifying examination. Kilimatinde functions as a training school for nurses auxiliary to Mvumi, but during 1961 it became an independent midwifery training school.

The leprosarium at Makatapora, with 220 inmates and over 300 out-patients continued to be supervised from Kilimatinde. It is intended that in due course this unit should be replaced by a new leprosarium at Hombolo. Building operations have been commenced there; several buildings have been completed and water has been laid on to the site.

Demand for the services of the small units at Kongwa and Mpwapwa fell off steadily during the year and both were closed as from 31st December, 1961. The remaining bedded dispensary, that at Buigiri, was handed over to the local authority and now functions as a local authority unit.

In addition to these units the Church Missionary Society has a "professional unit" staffed by a doctor and a dentist in Dodoma town.

21.3.3. The Augustana Lutheran Mission maintains two major hospitals, at Kiomboi and Iambi in Iramba District, a large leprosarium (445 in-patients and 600 out-patients) at Iambi and a total of 13 subsidiary dispensaries in Iramba and Singida Districts. During the year extensive remodelling of Kiomboi hospital proceeded and plans are now under consideration for the building of a complete new hospital at Kiomboi, the re-modelled old wards to be retained as a tuberculosis unit. This Church is also planning a wide ranging Community Health Programme with emphasis on child care, for the area which it serves, but this project remained, at the end of the year, in the planning stage, although normal maternity and child welfare services have continued. The major units of this mission are interconnected by a radio communication system which is reported to be of great value, not only in dealing with medical emergencies, but also for expediting routine administrative matters.

21.3.4. The third voluntary agency carrying out medical work in the Central Region, the Medical Missionaries of Mary, has a hospital of 65 beds at Makiungu in Singida District and three subsidiary dispensaries. During the year a new block providing a fully self-contained 15-bed maternity unit was completed. Child welfare attendances at this hospital increased by almost 100 per cent over the 1960 figure.

21.4. Eastern Region

21.4.1. The Voluntary Agencies carrying out medical work in the Eastern Region are the Church Missionary Society, the Capuchin Mission, the Universities Mission to Central Africa and the Danish Lutheran Mission, all of which have hospitals. In addition dispensaries are maintained by the Lutheran Church of Uzaramo at Maneromango in Kisarawe District, the Elim Mission in Bagamoyo District and by various Roman Catholic missions in and around Morogoro.

21.4.2. The Church Missionary Society has a 50-bed hospital at Berega in Kilosa District. This hospital had an agreement with the local authority whereby all out-patient treatment was provided free of charge to the patients in consideration of a fixed payment by the authority. Increasing attendances and irregularity and eventual lapse of local authority payment caused grave financial difficulty to this hospital and it was found necessary to reintroduce hospital charges.

21.4.3. The Capuchin Mission maintains a large hospital of 200 beds at Ifakara in Ulanga District at which work in medicine, surgery, mother and child health, tuberculosis and leprosy of a high standard is carried out. The Ifakara Medical Training Centre, although independent of the Mission, makes use of mission hospital facilities for teaching purposes and works in close association with the hospital staff. There are a number of rural dispensaries based on this hospital and in addition this Order is responsible for Kipatimu Dispensary and Leprosarium in the extreme north of Kilwa District in the Southern Region.

21.4.4. The Universities Mission to Central Africa hospital at Minaki, in accordance with this mission's plans to concentrate its efforts, closed in December, 1961. The valuable work carried on at this hospital over the years will be long remembered by the people of Tanganyika, and perhaps most especially for the excellent training school maintained there. The names of Dr. (Mrs.) Gibbons and Dr. (Miss) Marion Phillips are especially associated with the training side of the work.

21.4.5. The building of the new Danish Lutheran Mission Hospital at Lugala in the south of Ulanga District has continued. During the year a new ward has been built, another building converted for use as a ward, a laundry completed and electric lighting installed.

21.5. Lake Region

21.5.1. There are seven hospitals, run by four different voluntary agencies in the Lake Region and in addition there are two leprosaria and a number of dispensaries. The missions involved are the Africa Inland Mission, the Catholic Church of the Diocese of Mwanza, the Mennonite Mission and the Maryknoll Sisters.

21.5.2. The Africa Inland Mission has a hospital and a leprosarium at Kola Ndoto in Shinyanga District. The hospital reports a slight fall in attendances during the year, although there has been a considerable increase in abnormal midwifery and in the demand for accommodation for cases of tuberculosis. There has also been a fall in the number of patients under treatment for tuberculosis owing to the discharge of large numbers of clinically cured patients.

21.5.3. The Catholic Church of the Diocese of Mwanza (White Fathers) has hospitals at Sumve (Kwimba District), Bukumbi (Mwanza District), Kagunguli (Ukerewe District) and Sengerema (Geita District).

Sumve is a well established and busy hospital and an important training centre, both in general nursing and in midwifery, with accommodation for 68 students. During the year a kitchen and dormitory were added to the Training Centre buildings. It is planned to replace the hospital by complete new buildings in 1962.

The hospital at Bukumbi is now nearing completion. During the year male wards, the operating theatre block, a doctor's house and nurses' hostel were built. There still remains to be built kitchen, laundry, mortuary, garage and staff housing. Additional equipment acquired by this hospital during the year included an X-ray plant and a Volkswagen ambulance. It is planned that this hospital should become the focal point of an intensive rural health project.

At Kagunguli a new combined maternity Grade II ward was opened and the hospital now has a total of 125 beds, 34 of them maternity; midwifery cases at the hospital have almost doubled, from 190 deliveries in 1960 to 346, 78 of them complicated, in 1961. The hospital is a training centre for village midwives. Kagunguli is situated on Ukerewe Island; there is a subsidiary dispensary at Kibara on the mainland part of Ukerewe District and it is planned to build another hospital here; during 1961 out-patients block, operating theatre and maternity unit were completed.

Sengerema is another new hospital which was completed during 1961 by the addition of four wards, a mortuary, a hostel for patients' relatives, a small administrative building, and the provision of an electricity supply. It has a total of 136 beds and places considerable emphasis on maternity and child welfare work; 50 of the beds are reserved for midwifery and another ten for premature babies.

It is planned that all these hospitals, together with government and other voluntary agency hospitals and voluntary agency and local authority dispensaries should take part in a co-ordinated scheme for the treatment and control of tuberculosis in this area. This scheme is to be financed by a West German charitable organization, Misereor, and during the year Dr. Jentgens, a tuberculosis consultant to the West German Government, visited the area to carry out preliminary surveys.

21.5.4. The Mennonite Mission has its main hospital at Shirati, in North Mara District, where there is also a leprosarium, and smaller units at Nyabasi, near Tarime and at Kisaka in Musoma District. There was no major new construction at Shirati Hospital during the year, but various improvements were made to existing buildings. At Nyabasi the building of a laundry, and a new ward, was started. The Nursing Training School, opened in 1959, is making satisfactory progress.

21.5.5. The medical unit of the Maryknoll Sisters in Kowak in North Mara District is mainly concerned with maternity and child welfare work. The doctor in charge also supervises out-patient dispensaries at Nyegino in Musoma District and Rosana in North Mara District.

21.6. NORTHERN REGION

21.6.1. The missions carrying out medical work in the Northern Region of Tanganyika during 1961 were the Lutheran Church of Northern Tanganyika, the Medical Missionaries of Mary, the Norwegian Lutherans and the Holy Ghost Fathers. In addition, the Missionary Fellowship of the Church of God of Canada has applied for permission to open a dispensary in Mbulu District.

21.6.2. The Lutheran Church of Northern Tanganyika maintains hospitals under the charge of doctors at Machame in Kilimanjaro District and at Nkoaranga in Arusha District. In addition it has ten dispensaries of varying standards and two mobile units operating in Masailand. One of these mobile units is under the charge of a nursing sister, the other is in the charge of a qualified male nurse. There has been considerable delay in the completion of the new hospital buildings at Machame and it now appears that they will be unlikely to be ready for occupation before early 1962. Improvements and extensions at Nkoaranga include the provision of a new water supply and arrangements are in hand for a mains electricity supply. A new 14-bed ward has been built at the bedded dispensary at Karatu, in Mbulu District, and a maternity unit at the dispensary at Selian in Arusha District.

21.6.3. The Medical Missionaries of Mary Hospital at Ndareda again had a busy year with a daily average in-patient state of 80·5—in 81 approved beds. A new pharmacy and laboratory, started in 1960, were completed, the hospital laundry was enlarged and a nursery for premature infants was provided by modification of an existing building. The hospital staff supervises six dispensaries in Mbulu District and a leprosy clinic at Mbugwe, where there were 64 cases registered at the end of the year. In addition the hospital and its associated units play an important part in the Mbulu District tuberculosis scheme. Ndareda is a nurses training school and this year the first batch of eight trainees completed their course; all were successful in their qualifying examinations.

21.6.4. The Norwegian Lutheran Mission Hospital at Haydom, Mbulu District, and its two subsidiary dispensaries also played a part in the district tuberculosis scheme. It is reported that the work of the hospital has been influenced by a bad harvest, resulting in many cases of malnutrition, especially in children.

21.6.5. The Holy Ghost Fathers, although still without a doctor, operated a number of dispensaries, some of them quite large bedded units, in Kilimanjaro and Arusha Districts and in Masailand.

21.7. SOUTHERN REGION

21.7.1. The voluntary agencies play an extremely important part in the medical services of the Southern Region, the Missions concerned being the Universities Mission to Central Africa, the Benedictines of the Abbacies of Ndanda and Peramiho, the Christian Missions in Many Lands and the Capuchin Mission, which has an extension of its work in the Eastern Region into the north-west corner of Kilwa District, at Kipatimu.

21.7.2. The Universities Mission to Central Africa has, in the Diocese of Masasi, hospitals at Masasi, Lulindi and Newala, although there is no resident doctor at the last named, and a number of dispensaries. The Mkomaindo Hospital, at Masasi, functions as the district hospital. It is reported as having been extremely busy during the first part of the year, but in October and November work fell off considerably and the doctor in charge remarked that she saw less infectious disease during this time than ever before in her very long sojourn in this area. Prior to this, between May and October, there was an outbreak of meningococcal meningitis, although less serious than that of 1960; 49 cases were admitted to hospital of whom six died. This hospital, like all the major voluntary agency hospitals in the region, plays its part in the regional tuberculosis scheme, although rather hampered by lack of an X-ray plant; it is hoped that one will become available in 1962.

21.7.3. Lulindi hospital also had an extremely busy year and unlike Mkomaindo the fall in attendance towards the end of the year affected only out-patients; indeed in October the hospital with 104 approved beds had a daily average of 130·4 in-patients. In the area served by this hospital, although it is only some 30 miles from Mkomaindo, the cerebro-spinal meningitis picture was rather different from that reported above; there was no explosive outbreak but a steady incidence of five to ten cases per month throughout the year, indicating that the disease may be endemic in the vicinity of Lulindi with local epidemics arising when spread outside this area occurs. The X-ray set at Lulindi, which was out of order for much of 1960 and was repaired in June, 1961, broke down again in September, but at the end of the year it was in good working order. Leprosy is a major problem in the Southern Region and Lulindi plays an important part in the treatment of this disease, functioning as the base hospital for a number of out-patient dispensaries. The nursing training school had a good year; of 11 candidates at the final examination in November 10 were successful.

Newala hospital has no resident doctor being supervised from Lulindi some 15 miles away. It concentrates very much on maternity and child welfare work and is a village midwife training school. Many of the trainees are employed in the Newala District and their district work is supervised from the hospital, making the rural midwifery service in this densely populated area certainly as good as if not better than those anywhere else in the country.

21.7.4. In the extreme west of the region the Diocese of South-West Tanganyika of the Universities Mission to Central Africa has a small hospital at Liuli, on the shores of Lake Nyasa, a small leprosarium at Mngehe nearby and several rural dispensaries. The doctor in charge of this hospital also supervises two larger bedded dispensaries at Manda and Milo in the Southern Highlands Region. Communications in this area, always difficult, were seriously hampered by the heavy rains both at the beginning and towards the end of the year.

21.7.5. The work of the Benedictines of the Abbacy of Ndanda is centred on three main hospitals at Ndanda (Masasi District), Mnero (Nachingwea District) and Nyangao (Lindi District). There is in addition a number of smaller dispensaries supervised by the mission in this area. The largest of these hospitals, Ndanda, had three doctors on its staff throughout the year. It has in addition to its general wards a 60-bed tuberculosis unit and is a training school for midwives. Adjoining the hospital is the large Mwena Leprosarium. The hospital had a busy year and owing to the pressure on its surgical facilities a second "clean" theatre was opened in August. Although not directly affected by the meningitis of this area some 70 cases were treated between July and November at Lupaso, one of its subsidiary dispensaries situated between Ndanda and Lulindi. Maternity and child welfare work showed considerable increase in deliveries rising by 104 to 362; of these 101 were abnormal; maternal mortality was nil.

Mnero hospital also reports a busy year although owing to the absence on leave for some months of one of the two doctors on the staff there was a decrease in surgical work. This hospital is a training school for Rural Medical Aids and of 13 candidates attempting the final examination 11 were successful. It is interesting to note that in this area the demand for tuberculosis beds has declined and a project to enlarge the tuberculosis unit has been shelved. It is tempting to hope that this indicates an early if local success for the regional tuberculosis scheme which has now been functioning for about four years.

The hospital at Nyangao with 82 approved beds, 20 of them earmarked for tuberculosis, had an average daily bed state of 78. There was a turnover of 145 patients through the tuberculosis beds.

21.7.6. The Benedictines of the Abbacy of Peramiho are responsible for a widespread medical service covering much of Songea District and extending into Njombe District in the Southern Highlands Region. In addition to their main hospital at Peramiho they have a number of very large bedded dispensaries; one of the largest of these, Litembo with 131 approved beds was raised to hospital status by the appointment of a resident doctor during the year; the majority are under the charge of trained nurses.

There were three doctors in residence at Peramiho during the year and all were very fully employed, both in the hospital and in supervising the work of the dispensaries. Peramiho is a nurses training centre and 15 out of 17 candidates passed their final examination in 1961.

21.7.7. The Christian Missions in Many Lands completed the building of its hospital at Mbesa in Tunduru District and rapidly established a good reputation. This hospital is in reasonably close proximity (30 miles) to Tunduru and in view of the lack of facilities at Tunduru, at the government hospital, which makes it difficult to employ a medical officer effectively there, negotiations were entered into with a view to this hospital becoming a subsidiary bedded dispensary of Mbesa.

The Mission also maintains a small unit under the charge of two nursing sisters at Kilwa Masoko in Kilwa District. They are mainly occupied with maternity and child welfare work.

21.8. Southern Highlands Region

21.8.1. There are a number of voluntary agencies operating medical units in the region. They are the Baptist Mission of East Africa, the Lutheran Church of Southern Tanganyika, the Finnish Missionary Society, the Universities Mission to Central Africa, the Consolata Fathers, the White Fathers, the Benedictines of the Abbacy of Peramiho and the Moravian Mission.

21.8.2. The work of the Benedictines has already been described in the previous section. They have a hospital under the charge of a medical officer at Lugarawa and a new tuberculosis unit of 51 beds was completed towards the end of the year. It is planned to take it into use in January, 1962.

21.8.3. The work of the Universities Mission to Central Africa in this region is also described in the preceding section.

21.8.4. The Baptist Mission of East Africa concerns itself with the treatment of tuberculosis in Mbeya and adjoining districts. The base hospital at Mbeya was busy throughout the year and a total of 308 patients were admitted for treatment of tuberculosis and other chest disorders. Out-patient clinics were held in Tukuyu/Rungwe area and consideration is being given to ways and means of providing a more effective follow up out-patients service.

21.8.5. Ilembula Hospital of the Lutheran Church of Southern Tanganyika and its satellite dispensaries functioned normally throughout the year. Building is in progress which will, when complete, increase the capacity of this hospital to 160 beds.

21.8.6. The Finnish Missionary Society has a hospital at Itete, but no report has yet been received on its work.

21.8.7. The Consolata Fathers of the Diocese of Iringa maintain a hospital in association with their educational establishments at Tosamaganga and another small hospital at Ulete in Iringa District in addition to a number of out-patient dispensaries. They have submitted plans for the building of a further hospital at Mwakete in the Ukinga Chiefdom of Njombe District.

21.8.8. The White Fathers of the Diocese of Mbeya maintain a small hospital at Kisa in Rungwe District and have made application for a grant of land on which to erect a bedded dispensary, eventually to be upgraded to a hospital, at Kamsamba in Mbeya District.

21.8.9. The Moravian Mission, whose main sphere of activity is the Western Region, has a maternity clinic and bedded dispensary at Mbozi in Mbeya District. Some decrease in work is reported, possibly due to the opening of a rural health centre at Vwawa nearby.

21.9. TANGA REGION

21.9.1. The major part of the voluntary agency medical work in this region is carried out by the Usambara-Digo Lutheran Church and the Universities Mission to Central Africa, but in addition the Lutheran Church of Northern Tanganyika, the Rosminian Fathers, the Holy Ghost Fathers and the Church Missionary Society operate smaller units.

21.9.2. The Usambara-Digo Lutheran Church runs a medical service consisting of Bumbuli General Hospital, five subsidiary dispensaries and a mental hospital at Lutindi for chronic mentally sick and epileptic patients. Bumbuli hospital is a large and busy unit, with four resident doctors. During the year 2,816 patients were admitted to its wards and there were some 24,000 out-patient attendances. It is a training school for medical assistants, the only voluntary agency one in the country.

21.9.3. The Zanzibar Diocese of the Universities Mission to Central Africa maintains 15 medical units in the region, two of them at Magila and Kideleko being hospitals with resident doctors. Magila is a busy general hospital which admitted over 3,000 in-patients during the year. In addition the maternity and child welfare unit conducted 617 deliveries and recorded 7,800 ante-natal attendances. Kideleko likewise is a busy if rather smaller hospital with a flourishing maternity and child welfare section. There were 8,400 ante-natal attendances and some 400 deliveries during the year and no less than 38,000 general out-patient attendances. The smaller units, some of which are under the charge of trained nurses also place emphasis on work with women and children.

21.9.4. The Lutheran Church of Northern Tanganyika has six medical units in the Tanga Region. That at Gonja (Pare District) is now under the charge of a medical officer. The others are small out-patient dispensaries with the exception of one which is staffed by a medical assistant.

21.9.5. There are bedded dispensaries staffed by sisters attached to the Rosminian Fathers at Gare (Lushoto District) and Kwediboma (Handeni District) and one staffed by sisters attached to the Holy Ghost Fathers at Kilomeni in Pare District.

21.9.6. The Church Missionary Society operates a small out-patient dispensary at Lwande in Handeni District and is considering expanding this unit by adding a maternity clinic.

21.10. WESTERN REGION

21.10.1. The voluntary agencies carrying out medical work in this region were the Moravian Mission, the White Fathers, the Medical Missionaries of Mary, the Seventh Day Adventists, the Church Missionary Society, the Swedish Free and Swedish Holiness Missions and the Livingstone Memorial Mission.

21.10.2. The medical headquarters of the Moravian Mission is at Sekonge in Tabora District, where it has both a general hospital of 110 beds and a leprosarium. There are four subsidiary bedded dispensaries, those at Usoke and Kitundu including maternity and child welfare units under the charge of fully qualified sisters. This hospital normally has a medical staff of two doctors, but for various reasons only one was available for almost half the year, so that the amount of supervision which could be given to the sub-units was necessarily limited as the work load at Sikonge remained much the same as in 1960.

21.10.3. The hospital at Chala, in Ufipa District, built by the White Fathers of the Diocese of Karema and run by the Medical Missionaries of Mary had a very quiet year and at the end of the year it was decided to downgrade this unit to a bedded dispensary, transferring the senior staff to Mpanda. This mission also has a bedded dispensary and maternity unit at Karema on the lake shore and a number of other smaller units in the district.

21.10.4. The White Fathers of the Tabora Vicariate maintain busy bedded dispensaries with maternity and child welfare clinics, at Ndala and Ussongo in Nzega District. There is no medical supervision at either unit, other than that supplied by the government district medical officer, but plans are now being considered for the replacement of Ndala by a properly built and staffed hospital.

21.10.5. The White Fathers of the Kigoma Vicariate have a hospital at Kabanga, near Kasulu, staffed by the Medical Missionaries of Mary and the Sisters of Our Lady of Africa. This is a relatively new hospital and it is proposed that it should, in due course, become a training school, but construction of the necessary buildings has been delayed and had not commenced at the end of 1961. There are a number of dispensaries based on the hospital which place special emphasis on maternity and child welfare work; that at Ujiji was particularly busy.

21.10.6. The Seventh Day Adventists hospital at Heri, in Kasulu District, had a busy year as usual.

21.10.7. The Swedish Free Mission has a hospital at Nkinga in Nzega District and together with the Swedish Holiness Mission it maintains small dispensaries in Tabora, Nzega, Kahama, Kibondo, Kasulu and Kigoma Districts. Development of the Nkinga hospital continues and it now has 72 beds.

21.10.8. The Church Missionary Society has two small bedded dispensaries, one in Kigoma District and one in Kasulu District.

21.10.9. The Livingstone Memorial Mission maintains a dispensary, maternity unit and orphanage at Tatanda in Ufipa District.

21.11. West Lake Region

21.11.1. Voluntary agencies active in the medical field in West Lake Region are the Church of Sweden Mission, the Church Missionary Society and the White Fathers of the Diocese of Bukoba.

21.11.2. The Church of Sweden Mission has hospitals at Ndolage in Bukoba District and at Nyakahanga in Karagwe District. Ndolage has 120 approved beds and is a nurses training school; it is proposed that it should also become a midwifery training school in 1962. A new midwifery unit has been completed and was brought into use in August. The hospital has two bedded dispensaries, at Rwantage and Kigarama based on it and it runs two out-patient dispensaries on behalf of the local authority.

Nyakahanga hospital is the only hospital in Karagwe District and functions as the district hospital. It is an example of close co-operation between voluntary agency and local authority. The hospital buildings are owned by the local authority and there are two representatives of the Buhaya Council on the Hospital Management Committee. The hospital, like almost all voluntary agency hospitals, charges fees but indigent patients are treated free, their expenses being defrayed either from the "Hospital Fund for Poor Patients" mainly derived from churches in Europe or by the Buhaya Council. This scheme was introduced in mid-year and from then to December the fund contributed Shs. 8,836/- and the local authority Shs. 5,583/- for this purpose. The hospital has had a busy year due to the very large influx of refugees from Ruanda Urundi into the district; all of those requiring medical treatment were treated and fed without charge.

21.11.3. The Church Missionary Society has a 60-bed hospital at Murgwanza in Ngara District. This hospital also has been affected by the influx of refugees and one of the Nursing Sisters on the staff runs regular maternity and child welfare clinics in refugee camps at Mumwendo and Muyenzi.

21.11.4. The White Fathers of the Diocese of Bukoba operate a hospital at Kagondo, with 80 approved beds, another at Rulenge with 48 approved beds, and a third at Rubya. In addition the hospital staff supervise four bedded dispensaries, the largest of which has 50 beds, and a number of smaller units.

The hospital at Kagondo in Bukoba District, which was founded in 1927, is in the process of gradual replacement and during 1961 a laboratory and two consulting rooms, forming part of a projected new out-patient block, also one small staff quarter, were built.

The hospital at Rulenge in Ngara District bore its share of the extra work occasioned by the refugee problem; situated as it is within three miles of a refugee camp, it admitted many cases, particularly of children in an advanced stage of malnutrition complicated by lung or bowel infection.

Rubya hospital in Bukoba District, although normally under the charge of a doctor, was without one from June onwards and as a result the volume of work declined. It was visited regularly by a doctor from Kagondo. Some concern was caused by an epidemic of amoebiasis amongst the students in the Seminary there; it was still under investigation at the end of the year.

22. THE RURAL MEDICAL SERVICES

22.1. The medical services in rural areas, with very few exceptions, are provided by units the financial responsibility for which is vested in the local authorities. The units of the rural medical services are of three types. The largest is the rural health centre, which has a medical assistant in charge, assisted by an assistant health inspector and a health nurse, together with orderlies, village midwives and subordinate service staff. This unit, which provides limited in-patient accommodation, both general and maternity, of hostel type, functions as a centre for curative and preventive medicine in the area in which it is situated and the medical assistant is charged with the responsibility for supervising a number of satellite dispensaries. At the next level is the Grade "A" dispensary, a unit normally in the charge of a rural medical aid and primarily a curative centre for out-patient treatment, although at some Grade "A" dispensaries a limited number of hostel and maternity beds is provided. Finally, there is the Grade "B" dispensary, which provides very limited curative facilities and is in the charge of a tribal dresser, a man who has received a period of practical training at a district hospital before being posted to the dispensary.

22.2. During the year the number of dispensaries Grade "A" and Grade "B" in the country increased by 23, an additional three rural health centres were opened, while the construction of several others was far advanced.

22.3. The extension of the health centre net-work has been very considerably hindered by the inability of local authorities to finance the building of these units and to pay the salaries of the additional staff required. As stated in last year's report, although equipment, including a Landrover, is provided free of charge by U.N.I.C.E.F., the cost of construction of the necessary buildings is now between £6,000 and £10,000, while maintenance and recurrent costs, including the reimbursement to Government of seconded staff can amount to well over £2,000 per annum. There is also the very greatly increased cost of drugs due primarily to increasing demands by the public for medical attention. In addition to the dispensary services provided by the local authorities, there still remain a few bedded dispensaries provided by this Ministry, generally in the more sparsely populated areas, in areas in which the local authority's organization is not as yet adequate to permit of the establishment of its own medical units. It is the policy of Government to hand over these bedded dispensaries to the local authorities, but this policy has been impossible to implement for financial reasons.

22.4. In addition to the local authority and government dispensaries, there is also an extensive dispensary service operated by the voluntary agencies in many parts of the country. These units vary from dispensaries of the standard of the local authority Grade "B" dispensaries to large bedded dispensaries, some of them with as many as 100 beds, but having no resident medical staff. The larger units are often under the charge of nursing sisters and although a medical officer is lacking these bedded dispensaries undoubtedly constitute an important addition to the medical facilities in rural areas.

22.5. The supervision of the rural medical units by the medical staff of district hospitals was rendered difficult during the year owing to the most abnormal weather conditions and disrupted communications. It was also hindered by the continuous increasing demand for medical services at the district hospitals themselves, making it increasingly difficult for doctors to leave their duty posts for safari inspections.

23. THE REPORT OF THE GOVERNMENT CHEMIST

23.1. Staff

23.1.1. The staff position remained serious throughout the year. Vacancies for two Chemists out of an establishment of three were unfilled throughout the whole year, while an Assistant Chemist who joined the staff in April, 1961, resigned the following November. The establishment of Chemical Assistants was never filled with permanent appointees during the year.

23.1.2. Mr. G. W. Walker was appointed Government Chemist in February, and was on vacation leave from 8th July to 4th October, 1961. Mr. E. V. R. Khomo acted as Government Chemist during his absence. All other professional staff were on duty throughout the year.

23.2. SUMMARY OF THE YEAR'S WORK

23.2.1. The number of samples analysed is given in the Appendix. The slight rise in industrial and related samples is largely due to the laboratory resuming the testing of bearing metals for East African Railways and Harbours and to Government's policy of buying locally produced material wherever possible, this policy necessitating the analysis of numerous soap samples submitted in response to invitations to tender for the supply of this product.

23.2.2. The decrease in the number of foodstuffs examined is largely explained by the Dar es Salaam Municipal Council reverting to their normal practice of examining routine milk samples in their own laboratories.

23.2.3. The overall number of forensic and toxicological samples dealt with remained at the usual level.

23.3. SECTIONAL REPORTS

23.3.1. *Foodstuffs*

The fresh milk samples examined came from Dar es Salaam (three samples), Morogoro (ten samples), Arusha (three samples), and Lindi (two samples). The Dar es Salaam samples were all formal samples and give no indication of the large number of routine checks made in the Municipal Council's own laboratories.

The majority of tinned milks examined were submitted by the Customs authorities for examination as to whether their composition was in accordance with statutory standards. Every consignment was found to be satisfactory. A small number of unsweetened tinned milks were received from the Health Authorities who stated that customers buying the milk complained that it was lumpy. Examination revealed that the contents, although of satisfactory chemical composition, were lumpy. This condition is usually caused by long storage, and although it does not render the milk unfit for human consumption it cannot be considered to be of the quality normally expected by a purchaser.

Maize flours formed most of the cereals examined. Two main types of maize flour are on sale in this country, namely "sembe", a refined maize flour with most of the germ and seed coat removed, and "dona", milled whole maize. As would be expected, the "sembe" type has the more attractive appearance, although it is markedly inferior to "dona" from the nutritional point of view. The vitamin B1 content of "sembe" flour rarely exceeds half that of "dona" and is frequently insignificant, while its mineral content is also very low and its protein content significantly lower than that of "dona".

The "sembe" flour does. however, have better storage properties than milled whole maize, which tends to develop rancidity on storage.

During the year samples of maize flour and pulses supplied to Government at different stations throughout the country were examined to see if they complied with the statutory requirements of the Food and Drugs Act. The results were somewhat disturbing, namely:—

13 samples of "dona" type flour examined:
    8 samples below standard.

18 samples of "sembe" type flour examined:
    4 samples below standard.

58 samples of pulses examined:
    45 samples below standard.

It is of course possible that certain cases of poor quality could be ascribed to partial crop failures in some areas, but whether this is the case or not, it is a most unsatisfactory state of affairs that such a high proportion of staple foodstuffs on sale, particularly in up-country areas, does not comply with statutory requirements.

The investigation into the amino-acid content of cassava leaf protein was completed during the year. All the essential amino-acids with the exception of tryptophan were found to be present in reasonable quantities. The examination of leaves at different stages of maturity indicated the amino-acid pattern changed with increasing maturity.

Locally baked bread was checked for its moisture. No case of excessive moisture content was found.

The examination, on behalf of the Customs and Excise authorities, of beers, wines and spirits, tinned and bottled fruit and fruit juices, continued throughout the year.

23.3.2. *Industrial and related samples*

The majority of water samples examined came from up-country sources, the most usual examination requested being to assess potability. Monthly checks on the quality of water from the Mtoni Waterworks, Dar es Salaam, continued, and in addition a number of waters were examined to determine their corrosion potential in boilers.

As remarked earlier, many more soap samples were examined than in previous years. The results of the examination confirmed the suspicion that since the repeal of regulations governing soap quality, the quality of locally produced soap had in general deteriorated. Locally produced blue mottled soap was found to vary in its true soap content from 30 per cent to 76 per cent, while a similar variation (31 per cent to 75 per cent) was noted in laundry soaps. In certain cases soaps were found to contain free caustic soda in amounts that could only be considered dangerous to the user. Frequently the prices asked for locally produced soap cannot be taken as a guide to quality and it is therefore difficult if not impossible for a customer to judge the quality of soap on offer while the fact that several producers appear to experience considerable difficulty in standardizing their quality is a complicating factor. The local soap industry is protected by customs duty being levied on imported soap, which makes it particularly disturbing that there is no means at present available for protecting the customer against indifferent quality or even against a product that can at times be a danger to health.

The examination of samples to assess the cause of damage in connection with insurance claims, and the examination of textile materials on behalf of the Customs authorities continued throughout the year.

23.3.3. *Toxicology and Forensic Chemistry*

This section was handicapped by the shortage of staff, although reorganization of the work, coupled with the police co-operating in keeping submissions to a minimum enabled the serious backlog with which the section was faced at the start of the year to be cleared.

Toxicology

The considerable rise in the number of viscera examined was partly due to a carry over of cases from the previous year, although the number of associated exhibits examined showed a distinct proportional increase. The substances isolated from viscera during the year showed the normal wide range, and are listed below. The list is intended to show the range of substances isolated, and it was not necessarily proved that they were the cause of death. It does not indicate the frequency of occurrence.

Alkaloids
alcohol
dioscorine
cardiac type glycoside
piperine
chlorinated insecticide
cantharidin
euphorbia resin
mepacrin
aloes
quinine
salicylate
carbromal
D.D.T.
butobarbitone
phenobarbitone
saponins.

The number of samples of "bhang" examined showed a considerable rise over previous years, while the number of arrows examined exceeded that of 1960, itself a record year.

Mention should be made here of the Ministry's appreciation of the assistance of the Botanist-in-Charge, East African Herbarium, for the identification of plant material sent to him in connection with many cases. It is only by the identification of plants used in traditional medicine, coupled with investigations into their active principles that one can ever hope to make progress in forensic toxicology in a country such as Tanganyika.

Forensic Chemistry

The types of cases investigated followed the pattern of those reported in previous years, and no case of undue scientific interest was brought to light during the year.

The assistance given by the photographic section of the Police Identification Bureau for the preparation of the photographs required in many of the cases is gratefully acknowledged.

The number of blood and urine samples analysed for alcohol was similar to the previous year. In some sixty per cent of the cases, the results indicated that the person was undoubtedly intoxicated, a further ten per cent being probably intoxicated.

The number of exhibits submitted for examination for the presence of blood stains fell sharply during the year when compared with 1960, and was on a par with those of earlier years. The chief reason for this drop was the police being more selective in their submissions. The methods employed in grouping blood and seminal stains was again modified, and it is gratifying to note that attempts to group stains are now meeting with considerable success.

23.4. The numbers of the main groups of samples examined during the year are as follows:

23.4.1. *Foodstuffs*

Fresh milks	18
Tinned milks	76
Cereals and cereal products	53
Edible oils and fats	15
Fruit drinks	68
Beers and spirits	47
Miscellaneous foods	97
	374

23.4.2. *Industrial and related samples*

Waters	377
Beeswax	9
Oilcakes	7
Insurance claims	66
Textiles	243
Lubricating oils	110
Soaps	62
Bearing metals	99
Miscellaneous	131
	1,104

23.4.3. *Forensic and Toxicological samples*

Viscera	107
Exhibits with viscera	182
Other suspected poisons	120
Arrows	61
Bhang	58
Body fluids for alcohol content	155
Forensic exhibits	184
Bloodstains	477
Seminal stains	83
Bones, hair, etc.	84
	1,511

APPENDIX

REPORT ON A SURVEY OF MOSQUITOES AT MOROGORO

By Mr. Fabian Mzoo, *Malaria Field Officer*

Morogoro, situated at the foot of the Uluguru Mountains at an altitude of 1,900 feet, has a mean annual rainfall of 40–50 inches and mean maximum and minimum temperatures of 80–85°F. and 60–65°F. respectively. The town contains many decorative and shade trees, with patches of forest following the courses of the principal rivers up valleys into the mountain. Many of the trees contain holes which hold water. A mosquito larviciding programme is enforced in the town.

Collections of mosquitoes were made in Morogoro by Government Entomologists J. W. McHardy (1930), W. Victor Harris (1942), and P. W. van Hurden (1944). The collection reported upon here was made in 1960–61 and includes and confirms all previous identifications; the Malaria Service is indebted to Mrs. E. C. C. van Someren for her assistance with the rarer specimens.

The breeding sites of the mosquitoes are recorded as follows:

A—Rock pools.
B—Bamboo pots, stumps and holes.
C—Domestic utensils.
D—Tree holes.
E—Mud pools on the ground, in the open.
F—Slow running streams (among marginal vegetation).
G—Slow running streams (irrigated rice fields).
H—Swampy ground (among short marginal vegetation).
I—Seepages.
J—Mud pools under overhanging rock.
K—Stumps of pawpaw trees.
L—Decumbent sisal leaves.
M—Adult mosquitoes caught in inside or outside resting places.

1.—Culicines

Aedes (*Aedimorphus*) *durbanensis* Theo. (M).
Aedes (*Aedimorphus*) *fowleri* d'Emmerez de Charmoy (AB).
Aedes (*Aedimorphus*) *haworthi* Edw. (BD).
Aedes (*Aedimorphus*) *ngong* (BD).
Aedes (*Banksinella*) *circumluteolus* Theo. (GM).
Aedes (*Diceromyia*) *furcifer* Edw. (BM).
Aedes (*Diceromyia*) *taylori* Edw. (BM).
Aedes (*Dunnius*) *natalensis* Edw. (BK).
Aedes (*Finlaya*) *fulgens* Edw. (BD).
Aedes (*Mucidus*) *scatophagoides* Theo. (GM).
Aedes (*Stegomyia*) *aegypti* Lin. (BCDKL).
Aedes (*Stegomyia*) *aegypti formosus* (BD).
Aedes (*Stegomyia*) *calceatus* Edw. (B)
Aedes (*Stegomyia*) *metallicus* Edw. (BD).
Aedes (*Stegomyia*) *simpsoni* Theo. (BDM).
Aedes (*Stegomyia*) *simpsoni lilii* Theo. (B).
Aedes (*Stegomyia*) *soleatus* Edw. (B).
Aedes (*Stegomyia*) *unilineatus* Theo. (B) (new record for Tanganyika).
Aedes (*Stegomyia*) *vittatus* Big. (AM).
Aedes heischi (BD).

Culex (*Culex*) *annulioris* Theo. (E).
Culex (*Culex*) *antennatus* Bec. (M).
Culex (*Culex*) *bitaenorhynchus* Giles (FGH).
Culex (*Culex*) *decens* Theo. (AFHI).
Culex (*Culex*) *duttoni* Theo. (AFH).
Culex (*Culex*) *ethiopicus* Edw. (G).
Culex (*Culex*) *fatigans* Wied. (in all water including cesspits).
Culex (*Culex*) *horridus* Edw. (B).

Culex (*Culex*) *pipiens* Lin. (H).
Culex (*Culex*) *simpsoni* Theo (AFI).
Culex (*Culex*) *trifilatus* Edw. (AB).
Culex (*Culex*) *univittatus* Theo. (EFI).
Cules (*Culiciomyia*) *nebulosus* Theo. (BD).
Culex (*Culiciomyia*) *nebulosus pseudocinereus* Theo. (BD).
Culex (*Lutzia*) *tigripes* Grandpre & Charmoy (AEFG).

Eretmapodites chrysogaster group Graham (B).
Eretmapodites quinquevittatus Theo. (B).
Eretmapodites subsimplicipes Edw. (CD).

Mansonioides africanus Theo. (M).
Mansonioides uniformis Theo. (M).

Toxorhynchites brevipalpis Theo. (BD).
Toxorhynchites lutescens Theo. (B).

Uranotaenia fusca Theo. (A).

NOTE.—*Culex* (*Culex*) *weschei* Edw. was reported by van Hurden in 1944 as a new record for East Africa. The species has not been recorded from Morogoro since.

2.—ANOPHELINES

Anopheles (*Anopheles*) *coustani coustani* Lav. (FHM).
Anopheles (*Anopheles*) *coustani caliginosus* De Meillon (M).
Anopheles (*Anopheles*) *coustani tenebrosus* Donitz (M).
Anopheles (*Anopheles*) *coustani ziemanni* Grünberg (M).
Anopheles (*Anopheles*) *paludis* Theo. (M).
Anopheles (*Myzomia*) *cinereus* Theo. (E).
Anopheles (*Myzomia*) *funestus* Giles (FHIM).
Anopheles (*Myzomia*) *demeilloni* Evans (EFJM).
Anopheles (*Myzomia*) *gambiae* Giles (EFGHM).
Anopheles (*Myzomia*) *longipalpis* Theo. (J).
Anopheles (*Myzomia*) *lovettae* Evans (J).
Anopheles (*Myzomia*) *machardyi* Edw. or *ardensis* Theo. (J) (the larval stages cannot be separated).
Anopheles (*Myzomia*) *maculipalpis* Giles (H).
Anopheles (*Myzomia*) *marshalli* Theo. (HM).
Anopheles (*Myzomia*) *pharoensis* Theo. (M).
Anopheles (*Myzomia*) *pretoriensis* Theo. (EFJ).
Anopheles (*Myzomia*) *rivulorum* Leeson (F).
Anopheles (*Myzomia*) *squamosus* Theo. (M).

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TANGANYIKA

MINISTRY OF HEALTH AND LABOUR

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of the
Health Division
1961

VOLUME II
(*Statistics*)

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PART I

Staff

TABLE I

ESTABLISHMENT

(as at 31st December, 1961)

ADMINISTRATION

1	Minister for Health and Labour.
1	Parliamentary Secretary.
1	Permanent Secretary.
1	Principal Assistant Secretary.
2	Assistant Secretaries.
3	Secretaries.
1	Senior Accountant.
1	Accountant.
10	Assistant Accountants.
11	Accounts Assistants.
4	Assistant Establishment Officers.
1	Establishment Assistant.
13	Office Supervisors.
45	Executive Officers.
217	Clerical Officers.
30	Typists.
38	Clerical Assistants.
17	Personal Secretaries/Stenographers/Audio-Typists.
1	Library Assistant.
1	Statistic Assistant.
35	Telephone Operators.

HEALTH DIVISION

1	Chief Medical Officer.
1	Deputy Chief Medical Officer.
3	Principal Medical Officers.
2	Senior Specialists.
11	Specialists.
20	Senior Medical Officers.
127	Medical Officers, Medical Registrars and Assistant Surgeons.
32	Assistant Medical Officers.
1	Principal Pathologist.
1	Senior Pathologist.
3	Pathologists.
1	Government Chemist.
3	Chemists.
1	Principal Dental Surgeon.
6	Dental Surgeons.
1	Principal Matron.
2	Senior Sister Tutors.

7	Sister Tutors.
14	Matrons/Senior Charge Nurses.
148	Nursing Sisters/Charge Nurses.
15	Senior Staff Nurses.
4	Staff Nurses.
724	Nurses/Senior Nurses.
1,682	Nursing Orderlies.
1	Supervisor, Isanga.
7	Senior Nursing Attendants.
52	Nursing Attendants.
15	Housekeepers/Wardens.
26	Senior Medical Assistants.
190	Medical Assistants.
26	Rural Medical Aids.
1	Chief Pharmacist.
3	Pharmacists.
1	Senior Compounder.
3	Assistant Pharmacists.
5	Senior Pharmaceutical Assistants.
36	Pharmaceutical Assistants.
7	Senior Laboratory Technicians/Technologists.
52	Laboratory Technicians/Laboratory Assistants.
70	Laboratory Auxiliaries.
3	Assistant Chemists.
3	Senior Chemical Assistants.
6	Chemical Assistants.
1	Senior Dental Technician.
2	Dental Technicians.
1	Assistant Dental Technician.
20	Dental Assistants.
1	Senior Hospital Secretary.
1	Hospital Secretary.
6	Hospital Administrative Assistants.
1	Hospital Welfare Officer.
1	Laundry Manager.
1	Laundry Foreman.
3	Medical Instructors.
2	Teachers.
4	Physiotherapists.
1	Senior Radiographer.
4	Radiographers.
1	Senior Radiographic Assistant.
1	Radiographic Assistant.
12	Radiographic Auxiliaries.
1	Radiological Technician.
1	X-Ray Mechanic.
3	Technical Assistants.

1	Foreman Transport.
1	Head Attendant.
8	Motor Drivers.
2,103	Subordinate Service Staff.
1	Supplies Officer.
1	Stores Officer.
5	Assistant Stores Officers.
32	Stores Assistants.
1	Security Assistant.
1	Chief Health Inspector.
39	Health Inspectors.
7	Senior Assistant Health Inspectors.
82	Assistant Health Inspectors.
31	Sanitary Inspectors.
2	Senior Health Visitors.
21	Health Visitors.
107	Health Nurses/Senior Health Nurses.
2	Entomologists.
4	Malaria Field Officers.
3	Senior Malaria Assistants.
31	Malaria Assistants.
8	Sleeping Sickness Auxiliaries.
5	Nutrition Officers.
1	Health Education Officer.
1	Printing Auxiliary.

TABLE II

MORBIDITY AND MORTALITY—EUROPEAN OFFICIALS

Total number of European Officials in Service (excluding High Commission)	3,016
Deaths	8
Invalidings	3
Number admitted to hospitals	166
Number sick in quarters	119
Total number of days off duty	2,342
Average days off per patient	8·21

Causes of Morbidity and Mortality:

(a) *Mortality:*

Coronary Thrombosis	1
Pneumonitis	1
Motor Car Accident	2
Heart attack	1
Chronic Pyelonephritis	1
Neoplasm of Lung	1
Stab wound in the neck	1
Total	8

(b) *Morbidity* (*diseases diagnosed*):

Infective and Parasitic Diseases	51
Neoplasms	7
Allergic, Endocrine System, Metabolic and Nutritional Diseases, and Diseases of the Blood-forming Organs	6
Mental, Psychoneurotic and Personality Disorders	4
Diseases of the Nervous System and Sense Organs	5
Diseases of the Circulatory System	12
Diseases of the Respiratory System	50
Diseases of the Digestive System	49
Diseases of the Genito-Urinary System	21
Diseases of the Skin Cellular Tissues, Bones and Organs of Movement	21
Symptoms, Senility and Ill-defined conditions	35
Accidents, Poisoning and Violence	24
Total ...	285

(c) *Principal Causes of Morbidity:*

Malaria (all forms)	22
Acute Respiratory Infections	20
Pyrexia of Unknown Origin	20
Influenza	13
Gastro-enteritis	12
Infections of Skin and Subcutaneous tissue	9

PART II

Training

TABLE. III

MEDICAL TRAINING

Approved Medical and Nursing Training Centres

Category of Student	Training Centre	Training Authority	Length of Course (Years)	Total Students under Training 1961	Students Qualified 1961	Total Qualified in each category 1961
Medical Assistants	Dar es Salaam	Government	3	74	27	34
	Bumbuli	Lutheran Mission	3	32	7	
Laboratory Assistants	Dar es Salaam	Government	3	9	4	4
Pharmaceutical Assistants	Dar es Salaam	Government	3	9	4	4
Dental Assistants	Dar es Salaam	Government	3	2	2	2
Hospital Steward Assistants	Dar es Salaam	Government	2	13	4	4
Rural Medical Aids	Mwanza, Morogoro, Dodoma, Mbeya, Iringa, Bukoba, Lindi	Government	2	92	63	97
	Mnero	Benedictine Mission	2	40	14	
	Minaki	U.M.C.A.	2	22	20	
Assistant Health Inspectors	Dar es Salaam	Government	3	26	15	15
Health Nurses	Tanga	Government	2	38	29	41
	Tukuyu	Government	2	31	12	
Nurses	Dar es Salaam	Government	3	171	39	144
	Mvumi	C.M.S.	3	81	27	
	Peramiho	Benedictine Mission	3	57	14	
	Magila	U.M.C.A.	3	38	12	
	Lulindi	U.M.C.A.	3	53	11	
	Sumve	White Fathers	3	55	10	
	Kiomboi	Augustana Lutheran	3	43	11	
	Ndolage	Church of Sweden	3	45	7	
	Kolandoto	Africa Inland Mission	3	42	5	
	Ndareda	Medical Missionaries of Mary	3	41	8	
	Shirati	Mennonite Mission	3	27	–	

TABLE III—(*contd.*)

MEDICAL TRAINING

Approved Medical and Nursing Training Centres

Category of Student	Training Centre	Training Authority	Length of Course (Years)	Total Students under Training 1961	Students Qualified 1961	Total Qualified in each category 1961
Midwives	Dar es Salaam	Government	1	36	35	91
	Mvumi	C.M.S.	1	11	11	
	Kilimatinde	C.M.S.	1	13	13	
	Ndanda	Benedictine Mission	1	20	12	
	Magila...	U.M.C.A.	1	9	8	
	Sumve	White Fathers	1	13	12	
Village Midwives	Korogwe	U.M.C.A.	2	6	3	34
	Kagunguli	U.M.C.A.	2	16	5	
	Newala	U.M.C.A.	2	13	8	
	Liuli	U.M.C.A.	2	2	–	
	Arusha	Government	1	5	4	
	Iringa	Government	1	4	2	
	Tabora	Government	1	5	4	
	Nzega	Government	1	15	8	
Charge Nurses and Nursing Sisters (Training Grade)	Dar es Salaam	Government	1	30	4	4
Assistant Medical Officers (promotion on trial)	Dar es Salaam	Government	½	20	–	–
Health Inspectors (promotion on trial)	Dar es Salaam	Government	1	15	4	4

PART III

Hospital and Dispensary Services

TABLE IV
GOVERNMENT HOSPITALS AND DISPENSARIES
AS AT 31ST DECEMBER, 1961

Province	Hospital	No. of Wards	Number and Category of Beds						Grade of Accommodation
			General	Obstetrics	Tuberculosis	Infectious	Mental	Total	
			I.—GENERAL HOSPITALS						
Southern	Mtwara	6	40	4	15	–	–	59	I, II, III and IV
	Nachingwea	7	39	4	63	–	–	106	I, II, III and IV
	Newala	5	42	–	22	–	–	64	III and IV
	Tunduru	2	30	–	–	–	–	30	IV
	Lindi	7	77	13	13	–	–	103	I, III and IV
	Songea	9	39	6	21	2	–	68	III and IV
	Kilwa	5	30	–	–	6	–	36	IV
Southern Highlands	Mbeya	18	99	11	–	4	–	114	I, II and IV
	Iringa	22	93	16	–	4	–	113	I, II and IV
	Tukuyu	7	75	6	–	4	–	85	IV
	Njombe	4	32	–	–	4	–	36	I and IV
Lake	Mwanza	19	178	17	14	13	–	222	I, III and IV
	Musoma	12	75	15	–	4	–	94	I, II and IV
	Ukerewe	5	52	–	–	8	–	60	IV
	Shinyanga	6	64	13	–	4	–	81	II and IV
	Maswa	5	52	–	–	8	–	60	IV
	Geita	5	54	–	–	6	–	60	IV
West Lake	Bukoba	8	104	14	12	1	–	131	II, III and IV
	Biharamulo	5	35	4	3	–	–	42	IV
Eastern	Morogoro	16	162	14	–	8	–	184	I, III and IV
	Kilosa	8	75	13	–	12	–	100	II, III and IV
	Mahenge	10	78	–	–	–	–	78	III and IV
	Bagamoyo	5	32	4	–	3	–	39	III and IV
	Utete	4	35	–	–	–	–	35	IV

TABLE IV—(*contd.*)
GOVERNMENT HOSPITALS AND DISPENSARIES
AS AT 31ST DECEMBER, 1961

Province	Hospital	No. of Wards	Number and Category of Beds						Grade of Accommodation
			General	Obstetrics	Tuberculosis	Infectious	Mental	Total	
Tanga	Tanga	15	288	36	86	–	–	410	I, II and IV
	Pangani	8	19	6	–	1	–	26	IV
	Korogwe	7	75	6	24	11	–	116	I, II and IV
	Lushoto	9	27	3	21	4	–	55	I and IV
	Muheza	7	52	–	46	8	–	106	IV
	Same	3	25	1	–	4	–	30	IV
Northern	Arusha	19	137	16	–	9	–	162	I, II, III and IV
	Moshi	19	229	16	–	24	–	269	I, II, III and IV
	Mbulu	5	62	6	36	–	–	104	IV
	Monduli	5	48	–	10	–	–	58	IV
Western	Tabora	18	166	24	10	8		208	I, III and IV
	Kigoma	6	60	8	–	–	–	68	II and IV
	Nzega	8	52	40	–	4	–	96	II, III and V
	Kibondo	5	47	5	–	8	–	60	IV
	Sumbawanga	7	65	13	–	4	–	82	IV
	Kahama	4	48	16	–	–	–	64	IV
	Kasulu	4	52	–	–	8	–	60	IV
Central	Dodoma	25	142	16	78	12	–	248	I, II, III and IV
	Singida	5	55	–	–	5	–	60	IV
	Kondoa	10	36	3	–	7	–	46	IV
	Mpwapwa	5	32	–	–	–	–	32	IV
Dar es Salaam	Princess Margaret	27	464	50	187	51	10	762	IV
	Ocean Road	35	54	15	1	4	1	75	I
TOTAL—GENERAL HOSPITALS	47	456	3,827	434	662	263	11	5,197	

TABLE IV—(*contd.*)

GOVERNMENT HOSPITALS AND DISPENSARIES

AS AT 31ST DECEMBER, 1961

Province	Hospital	No. of Wards	Number and Category of Beds						Grade of Accommodation
			General	Obstetrics	Tuberculosis	Infectious	Mental	Total	
			II.—SPECIAL HOSPITALS						
Central	Mirembe Mental ...	35	–	–	–	–	746	746	I, II and IV
	Isanga Mental	20	–	–	–	–	246	246	II and IV
Northern	Kibongoto Tuberculosis	7	–	–	302	–	–	302	III and IV
Eastern	Chazi Leprosy	3	1	1	–	33	–	35	IV
Southern Highlands	Makete Leprosy ...	4	–	2	–	34	–	36	IV
TOTAL—SPECIAL HOSPITALS	5	69	1	3	302	67	992	1,365	

TABLE IV—(*contd.*)
GOVERNMENT HOSPITALS AND DISPENSARIES
AS AT 31ST DECEMBER, 1961

Province	Hospital	No. of Wards	Number and Category of Beds						Grade of Accommodation
			General	Obstetrics	Tuberculosis	Infectious	Mental	Total	
				III.—DISPENSARIES					
Southern Highlands	Malangali	4	20	3	–	–	–	23	IV
	Chunya	4	24	–	–	9	–	33	IV
	Kyela	3	20	–	–	2	–	22	IV
Lake	Tarime	2	18	–	–	–	–	18	IV
	Ngudu	2	16	–	–	–	–	16	IV
West Lake	Ngara	2	24	–	–	–	–	24	IV
Eastern	Mafia	4	16	1	1	–	–	18	IV
	Kingolwira	3	33	–	–	–	–	33	IV
	Malindi	1	10	–	–	–	–	10	IV
	Ruvu	2	10	–	–	–	–	10	IV
Tanga	Handeni	6	24	–	–	–	–	24	IV
	Usangi	5	36	4	–	4	–	44	IV
Northern	Magugu	2	10	–	–	–	–	10	IV
	Siha	3	9	11	–	–	–	20	IV
	Oldeani	8	26	6	25	8	–	65	II and IV
Western	Mpanda	2	10	–	–	–	–	10	IV
Southern	Liwale	2	20	–	–	–	–	20	IV
Central	Kongwa	2	20	–	–	–	–	20	IV
	Manyoni...	4	18	2	–	2	–	22	IV
	Itigi	4	12	–	–	–	–	12	IV
Dar es Salaam	Ukonga	1	12	–	–	–	–	12	IV
TOTAL—DISPENSARIES	21	66	388	27	26	25	–	466	
TERRITORIAL TOTAL	73	591	4,216	464	990	355	1,003	7,028	

TABLE V

IN-PATIENTS—GOVERNMENT GENERAL AND SPECIAL HOSPITALS AND DISPENSARIES

Figures refer to the twelve-month period 1st December, 1960 to 30th November, 1961

PROVINCE	NUMBER ADMITTED DURING THE YEAR			NUMBER DISCHARGED DURING THE YEAR			DEATHS			DAILY AVERAGE IN HOSPITAL		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
I.—GENERAL HOSPITALS												
DAR ES SALAAM	7,994	9,111	17,105	7,751	8,919	16,670	267	165	432	356·33	212·03	568·36
CENTRAL	5,003	4,357	9,360	4,777	4,918	8,975	232	214	446	140·98	130·33	271·31
EASTERN	6,801	5,311	12,112	6,642	5,174	11,816	178	139	317	215·66	131·65	347·31
LAKE	8,287	8,189	16,476	7,936	7,900	15,836	371	261	632	202·13	209·98	412·11
NORTHERN...	10,275	9,938	20,213	9,865	9,813	19,678	558	427	985	290·62	208·25	498·87
SOUTHERN	4,697	4,363	9,060	4,378	4,162	8,540	170	121	291	215·63	149·80	365·43
SOUTHERN HIGHLANDS ...	4,774	6,364	11,138	4,559	6,115	10,674	142	160	302	122·00	148·66	270·66
TANGA	10,294	6,772	17,066	9,808	6,552	16,360	429	172	601	397·36	203·82	601·18
WESTERN	7,888	7,925	15,813	7,537	7,626	15,163	304	227	531	289·93	226·70	516·63
WEST LAKE	1,666	1,939	3,605	1,607	1,894	3,501	59	42	101	61·24	56·14	117·38
TOTAL—GENERAL HOSPITALS ...	67,679	64,269	131,948	64,860	62,353	127,213	2,710	1,928	4,638	2,291·88	1,677·36	3,964·24
II.—SPECIAL HOSPITALS												
DAR ES SALAAM:												
*Infectious Diseases Hospital	231	146	377	225	150	375	15	3	18	84·83	44·97	129·80
CENTRAL:												
Mirembe Hospital ...	444	172	616	324	134	458	32	15	47	503·00	234·06	737·06
Isanga Institution ...	93	9	102	63	6	69	10	1	11	212·42	40·00	252·42
EASTERN:												
Chazi Leprosy Hospital	942	294	1,236	939	292	1,231	–	–	–	25·73	8·16	33·89

*Figures refer to period up to 31st July, 1961 only.

TABLE V—(*contd.*)

IN-PATIENTS—GOVERNMENT GENERAL AND SPECIAL HOSPITALS AND DISPENSARIES

Figures refer to the twelve-month period 1st December, 1960 to 30th November, 1961

PROVINCE	NUMBER ADMITTED DURING THE YEAR			NUMBER DISCHARGED DURING THE YEAR			DEATHS			DAILY AVERAGE IN HOSPITAL		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
NORTHERN: Kibongoto Tuberculosis Hospital	804	516	1,320	706	440	1,146	19	23	42	126·00	100·80	226·80
TANGA: Infectious Diseases Hospital	93	–	93	91	–	91	–	–	–	34·85	–	34·85
SOUTHERN HIGHLANDS: Makete	224	153	377	203	139	342	4	2	6	22·00	14·00	36·00
TOTAL—SPECIAL HOSPITALS ...	2,831	1,290	4,121	2,551	1,161	3,712	80	44	124	1,008·83	441·99	1,450·82
III.—DISPENSARIES												
CENTRAL	1,648	1,203	2,851	1,577	1,165	2,742	50	58	108	37·78	26·90	64·68
EASTERN	1,039	528	1,567	1,020	514	1,534	15	14	29	49·36	25·68	75·04
LAKE	750	749	1,499	709	729	1,438	43	21	64	11·10	6·90	18·00
NORTHERN...	1,346	1,615	2,961	1,297	1,569	2,866	35	16	51	33·89	36·78	70·67
SOUTHERN	222	213	435	212	209	421	10	4	14	4·57	5·34	9·91
SOUTHERN HIGHLANDS ...	1,854	2,050	3,904	1,828	2,009	3,837	38	41	79	29·96	32·46	62·42
TANGA	1,310	1,244	2,554	1,257	1,231	2,488	49	30	79	28·20	35·66	63·86
WESTERN	212	244	456	197	231	428	12	10	22	4·75	4·90	9·65
WEST LAKE	314	331	645	301	329	630	10	8	18	9·35	9·90	19·25
TOTAL—DISPENSARIES ...	8,695	8,177	16,872	8,398	7,986	16,384	262	202	464	208·96	184·52	393·48
TERRITORIAL TOTALS ...	87,205	73,736	160,941	83,809	71,500	155,309	3,052	2,174	5,226	3,509·67	2,303·87	5,808·54

TABLE VI

OUT-PATIENTS—GOVERNMENT GENERAL AND SPECIAL HOSPITALS AND DISPENSARIES

Figures refer to the twelve-month period 1st December, 1960 to 30th November, 1961

I.—General Hospitals

PROVINCE	Total Attendances			Total New Cases		
	Male	Female	Total	Male	Female	Total
Dar es Salaam	517,907	382,712	900,619	123,239	102,957	226,196
Central	142,825	130,898	273,723	61,164	49,256	110,420
Eastern	169,433	112,733	282,166	78,458	55,968	134,426
Lake	228,944	194,732	423,676	110,925	90,157	201,082
Northern	249,449	176,617	426,066	95,491	67,352	162,843
Southern	179,041	141,404	320,445	87,044	66,429	153,473
Southern Highlands ...	174,223	148,849	323,072	78,741	72,879	151,620
Tanga	308,396	174,985	483,381	102,321	67,561	169,882
Western	215,791	183,099	398,890	121,529	100,123	221,652
West Lake...	48,963	34,033	82,996	30,097	15,617	45,714
Total— General Hospitals ...	2,234,972	1,680,062	3,915,034	889,009	688,299	1,577,308

II.—Special Hospitals

PROVINCE	Total Attendances			Total New Cases		
	Male	Female	Total	Male	Female	Total
Dar es Salaam:						
Infectious Diseases Hospital	10,946	8,353	19,299	550	278	828
Eastern:						
Chazi Leprosarium	3,207	1,537	4,744	1,440	652	2,092
Northern:						
Kibongoto Tuberculosis Hospital ...	10,596	9,448	20,044	1,248	1,437	2,685
Tanga:						
Infectious Diseases Hospital	7,581	5,481	13,062	94	59	153
Total—Special Hospitals	32,330	24,819	57,149	3,332	2,426	5,758

III.—Dispensaries

PROVINCE	Total Attendances			Total New Cases		
	Male	Female	Total	Male	Female	Total
Central	39,986	37,701	77,687	19,598	18,270	37,868
Eastern	87,773	47,490	135,263	24,700	17,924	42,624
Lake	116,248	108,366	224,614	29,801	26,725	56,526
Northern	43,723	43,052	86,775	26,611	21,209	47,820
Southern	21,343	14,768	36,111	6,872	4,470	11,342
Southern Highlands ...	71,691	63,553	135,244	48,967	42,801	91,768
Tanga	77,570	90,499	168,069	40,909	46,015	86,924
Western	22,580	23,152	45,732	11,442	10,283	21,725
West Lake...	18,356	17,168	35,524	9,140	8,079	17,219
Total—Dispensaries ...	499,270	445,749	945,019	218,040	195,776	413,816
Territorial Totals ...	2,766,572	2,150,630	4,917,202	1,110,381	886,501	1,996,882

TABLE VII
MATERNITY AND CHILD HEALTH SERVICES

PROVINCE	Ante-Natal Clinics			Child Health Clinics			Total Confinements attended	Deliveries without Complications	Deliveries with Complications	Abortions	Live Births	Still Births	Maternal Deaths	Deaths of Infants
	No. of Clinics	First attendances	Total attendances	No. of Clinics	First attendances	Total attendances								
					A. GOVERNMENT SERVICES									
Central	5	2,521	9,474	4	1,708	13,589	1,231	889	342	61	1,166	75	20	31
Eastern	6	2,837	12,846	8	1,570	6,017	1,692	1,377	315	96	1,609	100	16	34
Lake...	4	7,857	26,182	3	2,877	18,003	3,066	2,622	444	288	2,942	163	18	44
Northern	13	6,056	25,144	13	3,341	27,220	3,660	3,208	452	355	3,462	198	21	30
Southern	9	2,514	14,165	9	2,288	23,894	1,193	1,020	173	71	1,138	58	10	25
Southern Highlands ...	7	7,109	32,111	5	5,073	48,442	2,248	1,669	579	117	2,109	168	21	51
Tanga	12	5,526	26,529	12	5,184	48,333	1,989	1,748	241	224	1,880	116	22	53
Western	8	6,365	23,384	9	3,170	15,538	3,624	3,134	490	150	3,469	157	20	96
West Lake	2	1,307	3,651	2	513	2,944	627	411	216	23	567	60	9	30
Dar es Salaam	5	6,575	33,684	4	3,991	25,091	3,804	2,527	1,277	19	3,681	167	12	101
Total Government Services	71	48,667	207,170	69	29,715	229,071	23,134	18,605	4,529	1,404	22,023	1,262	169	495
					B. MISSIONS									
Central	11	5,807	19,334	16	2,402	11,035	2,807	2,359	448	173	2,737	74	12	55
Eastern	10	2,001	8,151	22	1,832	8,411	1,608	1,405	203	94	1,574	47	4	44
Lake...	11	6,677	13,798	11	2,155	9,096	3,777	2,667	1,110	336	3,636	230	30	171
Northern	18	5,759	14,444	12	3,270	12,378	2,291	1,778	513	183	2,228	63	6	43
Southern	31	9,362	34,542	26	6,613	40,248	2,226	1,800	426	166	2,127	114	17	83
Southern Highlands ...	8	2,258	6,509	6	1,440	11,304	1,889	1,381	508	79	1,799	90	3	38
Tanga	13	8,782	44,941	9	5,962	33,733	2,589	2,119	470	150	2,507	116	13	100
Western	23	14,743	51,208	77	27,466	109,423	3,534	2,903	631	222	3,404	153	19	86
West Lake	12	4,557	8,908	11	3,014	8,355	996	682	314	172	936	71	11	55
Total Mission Services ...	137	59,946	201,835	190	54,154	243,983	21,717	17,094	4,623	1,575	20,948	958	115	675
					C. NATIVE AUTHORITY SERVICES									
Central	36	10,505	38,723	33	8,867	39,689	4,908	4,660	248	183	4,772	133	7	69
Eastern	7	1,195	4,160	11	1,777	7,620	83	78	5	4	79	4	–	2
Lake...	27	10,072	39,309	27	7,556	33,962	3,531	3,282	249	137	3,436	153	11	47
Northern	14	8,689	26,663	14	6,012	26,425	4,210	4,058	152	66	4,105	105	–	30
Southern	21	5,958	38,774	21	7,924	56,592	1,930	1,676	254	49	1,848	89	–	15
Southern Highlands ...	11	4,705	18,757	11	3,390	26,580	549	534	15	10	521	29	1	3
Tanga	27	7,136	26,372	16	3,045	9,376	2,876	2,839	37	53	2,823	66	1	29
Western	48	12,558	41,420	49	9,710	42,961	2,729	2,542	187	45	2,664	77	3	23
West Lake	13	7,783	23,227	13	4,354	15,047	1,827	1,519	308	93	1,813	37	1	49
Total Native Authority Services ...	204	68,601	257,405	195	52,635	258,252	22,643	21,188	1,455	640	22,061	693	24	267
TERRITORIAL TOTALS ...	412	176,814	666,410	454	136,504	731,306	67,494	56,887	10,607	3,619	65,032	2,913	308	1,437

TABLE VIII A

LEPROSARIA (IN-PATIENTS)—GOVERNMENT, LOCAL AUTHORITY AND VOLUNTARY AGENCY

PROVINCE	No. of Leprosaria	Leprosy Patients admitted during 1961	Discharged	Absconded	Births	Deaths from Leprosy	Deaths from other Causes	Leprosy patients resident at 30th November, 1961				Clinical Classification active cases			Cases on Sulphone Therapy				Burnt-out Cases		Non-Lepromatous persons resident at 30th Nov. 1961		
								Men	Women	Children	Total	Lepromatous	Tuberculoid	Mixed	Men	Women	Children	Total	Without deformity	With deformity	Adults	Children	Total
Central	2	199	102	29	14	2	10	348	226	82	656	436	71	149	336	224	80	640	7	–	4	41	45
Eastern	4	254	128	42	20	3	7	453	222	58	733	307	282	140	405	199	54	658	7	6	12	48	61
Lake	2	198	341	75	38	9	3	417	227	109	753	325	364	64	415	224	108	747	1	4	73	97	170
Northern ...	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Southern ...	3	459	205	142	65	3	15	594	368	182	1,144	420	661	63	543	303	162	808	31	67	430	158	588
S. Highlands ...	1	166	57	74	8	–	6	296	169	53	518	244	166	108	296	169	53	518	1	–	14	11	25
Tanga	3	77	40	17	1	2	3	121	34	2	157	82	23	26	97	27	2	126	8	22	2	–	2
Western	3	91	22	20	12	–	4	272	132	93	497	336	147	14	271	132	93	496	–	1	1	20	21
West Lake ...	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Dar es Salaam ...	1	22	23	–	–	–	–	5	1	–	6	3	10	–	9	4	–	13	12	1	–	1	1
Totals ...	19	1,466	918	399	158	19	48	2,506	1,379	579	4,464	2,153	1,724	564	2,372	1,282	552	4,006	67	101	536	376	913

TABLE VIII B

LEPROSY OUT-PATIENT CLINICS

(Including Government, Local Authority and Voluntary Agency Clinics)

Province	No. of Clinics	Total Cases under Treatment 1961				New Cases under Treatment 1961				Cases under Sulphone Treatment		
		Lepro-matous	Tuber-culoid	Indeter-minate	Total	Lepro-matous	Tuber-culoid	Indeter-minate	Total	Adults	Children	Total
Northern	1	10	34	16	60	2	15	4	21	55	5	60
Western	95	861	3,170	1,947	5,978	310	926	137	1,373	5,338	624	5,962
Central	17	146	648	41	835	79	250	51	380	1,099	82	1,181
Southern	95	1,443	5,330	825	7,598	424	1,414	413	2,251	5,668	553	6,221
Lake	72	711	2,528	726	3,965	219	666	173	1,058	3,103	862	3,965
Eastern	64	1,298	3,843	948	6,209*	181	761	340	1,315*	5,324	737	6,471*
Southern Highlands	18	320	1,428	238	1,986	59	278	66	403	1,637	346	1,983
Tanga	36	371	1,618	573	2,562	296	535	152	983	2,465	442	2,907
West Lake	12	139	282	87	508	39	76	35	150	459	47	506
Dar es Salaam	1	88	340	124	552	46	129	68	243	430	7	437
Total ...	411	5,387	19,221	5,525	30,253	1,655	5,050	1,439	8,177	25,578	3,705	29,693

*Only totals available from some centres.

TABLE IX
LOCAL AUTHORITY MEDICAL SERVICES

PROVINCE	No. of Rural Health Centres	Number of Dispensaries		M.A.	R.M.A.	Dresser	Beds	New Cases			Total Attendances		
		Grade A	Grade B					Male	Female	Total	Male	Female	Total
Central	6	22	51	7	34	71	184	372,113	395,318	767,431	761,203	810,017	1,571,220
Eastern	2	40	70	4	38	115	40	387,259	354,432	741,691	646,322	625,982	1,272,304
Lake	6	65	56	9	66	186	880	784,236	716,153	1,500,389	1,451,352	1,475,531	2,926,883
Northern ...	3	35	28	6	36	84	117	441,890	459,632	901,522	766,092	757,488	1,523,580
Southern ...	2	26	40	3	26	74	92	245,126	226,524	471,650	456,124	453,783	909,907
S. Highlands ...	1	56	22	1	64	22	28	290,116	304,810	594,926	644,391	672,459	1,316,850
Tanga	–	40	15	–	43	26	41	144,079	135,456	279,535	260,910	255,506	516,416
Western ...	2	33	65	3	28	98	240	378,629	409,247	787,876	717,151	758,953	1,476,104
West Lake ...	–	33	18	1	33	47	173	228,351	234,892	463,243	357,491	368,700	726,191
Total ...	22	350	365	34	368	723	1,795	3,271,799	3,236,464	6,508,263	6,061,036	6,178,419	12,239,455

TABLE XA
VOLUNTARY AGENCY HOSPITALS WITH RESIDENT MEDICAL PRACTITIONERS
As at 31st December, 1961

Province and Voluntary Agency	Hospital	Number of Beds
Central:		
Augustana Lutheran	Iambi	50
Augustana Lutheran	Kiomboi	110
Church Missionary Society	Kilimatinde	84
Church Missionary Society	Mvumi	111
Medical Missionaries of Mary	Makiungu	65
Eastern:		
Church Missionary Society	Berega	50
Danish Luthern	Lugala	40
Swiss Capuchin	Ifakara	180
Lake:		
Africa Inland	Baraka (Leprosy)	61
Africa Inland	Kolandoto	99
Maryknoll	Kowak	40
Mennonite	Shirati	104
Roman Catholic	Sengerema	134
White Fathers	Bukumbi	165
White Fathers	Kagunguli	125
White Fathers	Sumve	193
Northern:		
Lutheran	Machame	80
Lutheran	Nkoaranga	50
Medical Missionaries of Mary	Ndareda	81
Norwegian Lutheran	Haydom	53
Southern:		
Benedictine	Litembo	121
Benedictine	Mnero	85
Benedictine	Ndanda	225
Benedictine	Nyangao	82
Benedictine	Peramiho	251
Universities Mission to Central Africa	Liuli	40
Universities Mission to Central Africa	Lulindi	133
Universities Mission to Central Africa	Mkomaindo	104
Southern Highlands:		
American Baptist	Mbeya (Tuberculosis)	104
Benedictine	Lugarawa	102
Consolata Fathers	Tosamaganga	60
Consolata Fathers	Ulete	39
Swedish Evangelical	Ilembula	120
Tanga:		
Lutheran, Usambara	Bumbuli	144
Universities Mission to Central Africa	Kideleko	78
Universities Mission to Central Africa	Magila	130
Western:		
Medical Missionaries of Mary	Kabanga	67
Moravian	Sikonge	146
Seventh Day Adventist	Heri	82
Swedish Free	Nkinga	72
West Lake:		
Church Missionary Society	Murgwanza	60
Church of Sweden	Ndolage	120
Church of Sweden	Nyakahanga	60
White Fathers	Kagondo	162
White Fathers	Rubya	62
White Fathers	Rulenge	80
TOTAL ...	46	4,604

TABLE XB

VOLUNTARY AGENCY MEDICAL SERVICES

1961

Province	Number of Hospitals and Dispensaries	Beds	In-Patient Admissions	Out-Patients	
				New Cases	Total Attendances
		I.—Hospitals with Doctors			
Central	5	420	10,561	33,057	110,360
Eastern	4†	390	6,439	41,690	173,742
Lake	8	921	12,415	70,581	236,379
Northern	4	264	8,602	33,947	71,385
Southern	8	1,041	15,938	73,758	462,507
Southern Highlands	5	425	9,337	25,635	98,864
Tanga	3	352	7,415	23,324	88,473
Western	4	367	5,361	26,686	78,223
West Lake	6	544	8,860	34,174	69,518
Totals—Hospitals ...	47	4,724	84,928	362,852	1,389,451
		II.—Dispensaries with over Twenty Beds			
Central	5	131	3,604	16,543	43,936
Eastern	2	100	1,292	16,552	58,807
Lake	1	30	774	5,386	15,064
Northern*	8	285	8,491	20,188	171,285
Southern*	18	951	18,299	119,057	476,612
Southern Highlands	10	452	10,460	57,232	208,321
Tanga	6	394	6,199	26,721	99,257
Western*	10	403	5,202	44,881	166,923
West Lake*	4	159	–	–	–
Totals—Dispensaries with over Twenty Beds ...	64	2,905	54,321	306,560	1,240,205
		III.—Other Dispensaries and Clinics			
Central	11	107	2,686	19,060	60,958
Eastern	26	91	967	94,641	353,651
Lake*	10	58	334	23,750	101,397
Northern	16	73	1,755	36,957	101,832
Southern	28	118	3,054	64,196	457,360
Southern Highlands	29	64	1,221	136,990	340,652
Tanga*	20	93	1,035	55,109	196,299
Western*	30	67	806	132,074	259,122
West Lake*	5	50	1,191	12,070	22,992
Totals—Other Dispensaries and Clinics ...	175	721	13,049	574,847	1,894,263
Territorial Totals ...	287	8,350	152,298	1,239,510	4,523,919

†Minaki Hospital closed on 12th November, 1961.

*Complete patient records from some units not available.

PART IV

Morbidity and Mortality

MORBIDITY AND MORTALITY EXPERIENCE

Diseases occurring in the main hospitals in Tanganyika are listed in accordance with the International Statistical Classification of Diseases and Causes of Death, and the statistics from which conclusions concerning morbidity and mortality are drawn are based upon returns of diseases submitted by those government and voluntary agency hospitals which have resident doctors. Table XI shows the analysis of statistics in respect of in-patients treated in those hospitals, and Table XII gives similar details regarding out-patients. The morbidity and mortality resulting from each of the disease groups are set out diagrammatically in Figure I, and are expressed as a percentage of the total in-patient admissions and out-patient attendances as recorded in Tables XI and XII. Figure II shows a more detailed analysis of the Infective and Parasitic Diseases which form the largest disease group.

The total number of diseases diagnosed in patients attending those hospitals both as in-patients and out-patients in 1961 was 2,482,055 as opposed to 2,097,944 in 1960. This represents a rise of 384,111 or about 18 per cent of the 1960 total. The number of deaths in hospital again fell in 1961, this time by 492 from 6,775 in 1960, to 6,293 in 1961. The percentage death rate expressed in terms of total number of diseases diagnosed in hospitalized patients was 2·75 per cent in 1960 and 2·5 per cent in 1961.

The morbidity shown as a percentage of the total diseases diagnosed shows a very similar pattern to previous years.

Comparing Figure I showing morbidity as percentage of total deaths and mortality as percentage of total deaths with Figure I for 1960, reveals that there has been little change. Figure II for 1961 also presents a similar picture to the Figure II for 1960.

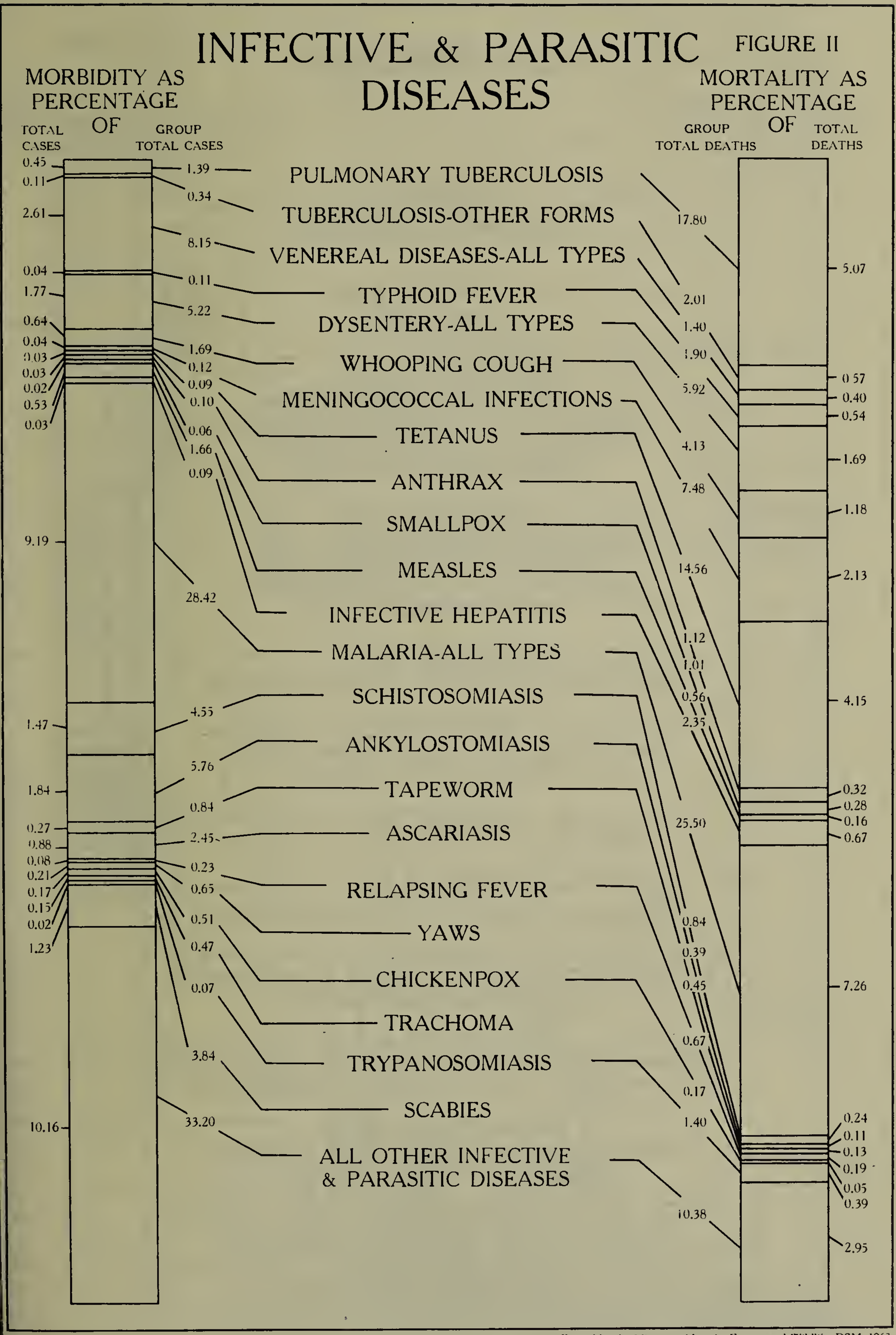
The commonest causes of hospital deaths during 1961 were as follows:

Pneumonia (all forms)	781
Malaria (all forms)	460
Gastro-enteritis (all ages)...	402
Tuberculosis (all forms)	355
Accidents	319
Defective Nutrition	285
Tetanus	261
Diseases of the Heart	248
Complications of pregnancy and childbirth	232
Meningitis	213
Pyrexia of unknown origin	194

It will be noted that malaria is the second most important cause of death, whereas on page 24 of the 1960 report it was shown as the eighth most important. This was, however, due to an error as examination of Table XI shows that deaths from malaria (all forms) in 1960 were 410 and not 218 as shown on page 24.

INFECTIVE & PARASITIC DISEASES

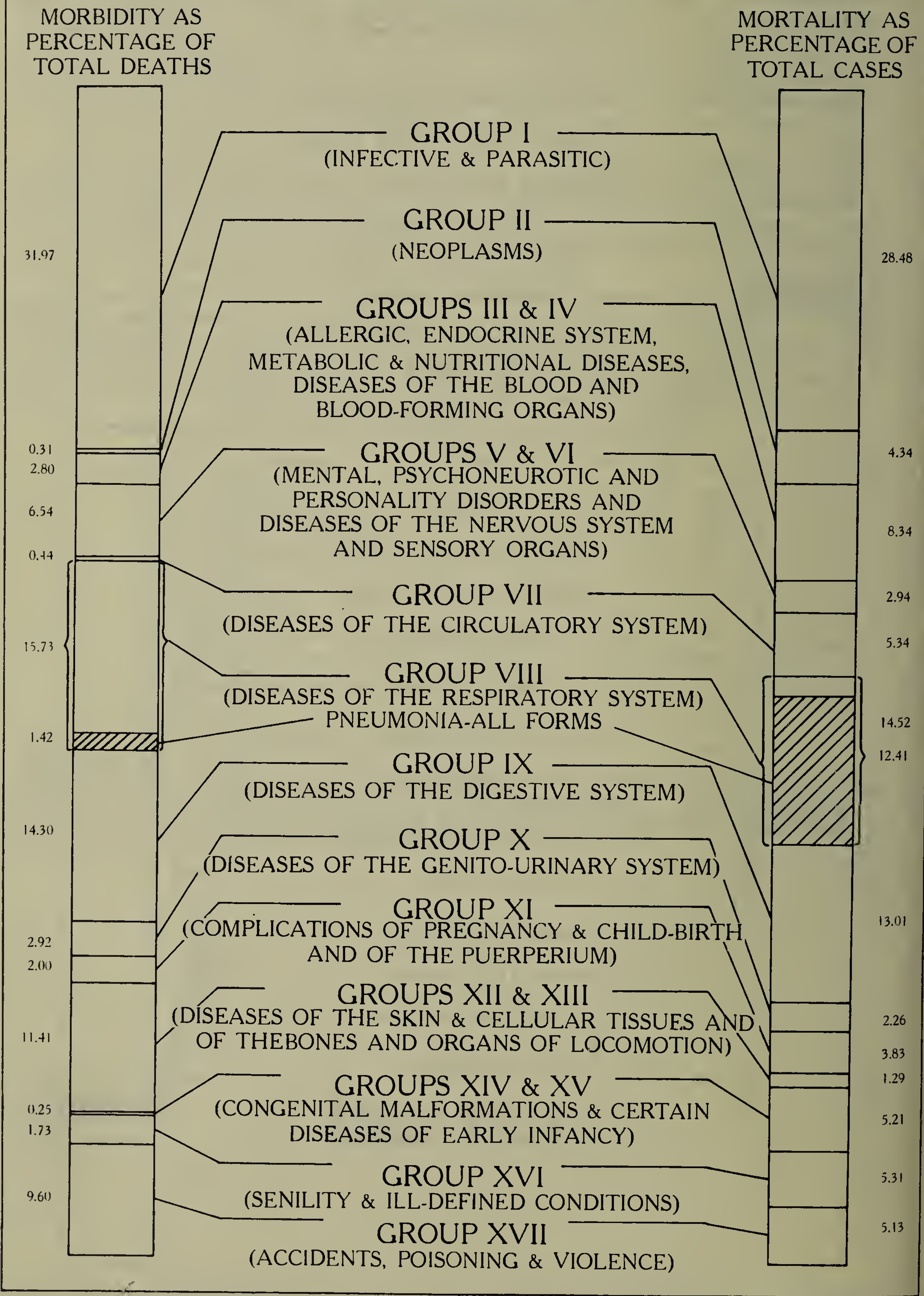
FIGURE II



Printed by the Ministry of Lands, Forests and Wildlife, DSM. 1963.

FIGURE I

ALL DISEASES



Printed by the Ministry of Lands, Forests and Wildlife, DSM. 1963.

TABLE XI
DISEASES
In-Patients—Government and Voluntary Agency Hospitals
(Hospitals with resident doctors only—1st January, 1961 to 31st December, 1961)

DISEASES	GOVERNMENT HOSPITALS						VOLUNTARY AGENCY HOSPITALS						TOTAL CASES BY RACES			TOTAL DEATHS BY RACES			TERRI- TORIAL TOTALS		Percent- age Morbid- ity	Perc ag Mort ity
	Cases			Deaths			Cases			Deaths			African	Asian	Euro- pean	African	Asian	European	Cases	Deaths		
	M	F	Total	M	F	Total	M	F	Total	M	F	Total										
GROUP I																						
Infective and Parasitic Diseases																						
Tuberculosis of the respiratory system ...	2,500	1,421	3,921	149	94	243	779	661	1,440	39	37	76	5,329	23	9	319	–	–	5,361	319	2·158	5·0
Tuberculosis of meninges and central nervous system	17	12	29	4	3	7	10	9	19	4	1	5	48	–	–	12	–	–	48	12	·019	·1
Tuberculosis of intestines, peritoneum and mesenteric glands...	46	29	75	2	3	5	41	46	87	1	3	4	159	3	–	9	–	–	162	9	·065	·1
Tuberculosis of bones and joints	275	116	391	3	–	3	54	40	94	1	–	1	480	5	–	4	–	–	485	4	·195	·0
Tuberculosis, all other forms	289	179	468	5	3	8	122	95	217	2	1	3	685	–	–	11	–	–	685	11	·276	·1
Syphilis—Congenital	32	34	66	1	3	4	136	156	292	3	2	5	357	1	–	9	–	–	358	9	·144	·1
Syphilis—Early	71	36	107	1	–	1	66	157	223	–	–	–	330	–	–	1	–	–	330	1	·133	·0
Tabes dorsalis	5	–	5	2	–	2	11	–	11	–	–	–	16	–	–	2	–	–	16	2	·007	·0
General paralysis of insane	12	1	13	2	–	2	10	3	13	–	–	–	26	–	–	2	–	–	26	2	·011	·0
Syphilis—All other	138	83	221	7	1	8	102	216	318	–	1	1	539	–	–	9	–	–	539	9	·217	·1
Gonorrhoea, genito-urinary	383	285	668	–	–	–	1,131	1,373	2,504	–	–	–	3,161	8	3	–	–	–	3,172	–	1·277	
Gonoccocal infection of eye	25	9	34	–	–	–	16	38	54	–	–	–	87	1	–	–	–	–	88	–	·035	
Other Gonoccocal infections	187	143	330	1	3	4	118	39	157	–	–	–	486	1	–	4	–	–	487	4	·196	·0
Typhoid fever	367	169	536	19	3	22	178	117	295	6	6	12	804	10	17	33	1	–	831	34	·334	·5
Paratyphoid and other Salmonella infections	20	6	26	–	–	–	26	17	43	1	–	1	64	1	4	1	–	–	69	1	·028	·0
Cholera	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
Brucellosis (undulant fever)...	40	23	63	–	4	4	13	26	39	–	9	9	98	1	3	13	–	–	102	13	·041	·2
Bacillary Dysentery	724	404	1,128	19	8	27	310	337	647	10	6	16	1,737	14	24	43	–	–	1,775	43	·714	·6
Amoebiasis	353	133	486	8	5	13	525	441	966	8	11	19	1,410	19	23	31	1	–	1,452	32	·584	·5
Dysentery—unspecified	852	514	1,366	18	3	21	487	495	982	4	6	10	2,302	26	20	29	1	1	2,348	31	·945	·4
Scarlet fever	1	3	4	–	–	–	–	–	–	–	–	–	4	–	–	–	–	–	4	–	·002	
Streptococcal sore throat	103	57	160	3	2	5	46	62	108	–	2	2	259	3	6	7	–	–	268	7	·108	·1
Erysipelas	5	3	8	2	2	4	6	6	12	–	3	3	19	–	1	7	–	–	20	7	·008	·1
Septicaemia and pyaemia	10	11	21	3	4	7	7	13	20	2	1	3	40	–	1	10	–	–	41	10	·017	·1
Diphtheria	7	15	22	1	7	8	2	2	4	1	6	7	26	–	–	15	–	–	26	15	·011	·2
Whooping Cough	426	375	801	14	17	31	455	566	1,021	17	26	43	1,803	17	2	74	–	–	1,822	74	·733	1·1
Meningococcal infections	353	173	526	63	40	103	128	135	263	23	8	31	782	4	3	131	3	–	789	134	·318	2·1
Plague	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
Leprosy	134	49	183	2	57	59	124	79	203	2	6	8	384	2	–	67	–	–	386	67	·155	1·0
Tetanus	246	168	414	135	47	182	84	66	150	47	32	79	554	8	2	258	3	–	564	261	·227	4·1
Anthrax	159	126	285	4	8	12	33	49	82	3	5	8	363	1	3	20	–	–	367	20	·148	·3
Acute poliomyelitis	67	51	118	7	2	9	38	42	80	3	1	4	194	3	1	13	–	–	198	13	·080	·2

TABLE XI—(*contd.*)

DISEASES

In-Patients—Government and Voluntary Agency Hospitals

(Hospitals with resident doctors only—1st January, 1961 to 31st December, 1961)

DISEASES	GOVERNMENT HOSPITALS						VOLUNTARY AGENCY HOSPITALS						TOTAL CASES BY RACES			TOTAL DEATHS BY RACES			TERRITORIAL TOTALS		Percent-age Morbid-ity	Perc ag Mor it
	Cases			Deaths			Cases			Deaths												
	M	F	Total	M	F	Total	M	F	Total	M	F	Total	African	Asian	Euro-pean	African	Asian	European	Cases	Deaths		
Acute infectious encephalitis	14	9	23	2	2	4	21	9	30	8	5	13	52	1	–	17	–	–	53	17	·021	·2
Late effects of acute poliomyelitis and acute infectious encephalitis	56	26	82	–	1	1	17	19	36	–	1	1	118	–	–	2	–	–	118	2	·047	·0
Variola major	76	69	145	3	6	9	12	5	17	–	–	–	161	1	–	9	–	–	162	9	·065	·1
Variola minor	193	57	250	5	4	9	4	2	6	–	–	–	255	1	–	9	–	–	256	9	·103	·1
Measles	389	651	1,040	4	1	5	365	444	809	3	2	5	1,830	12	7	10	–	–	1,849	10	·744	·1
Yellow fever	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
Infectious hepatitis	274	134	408	24	13	37	148	118	266	4	1	5	609	38	27	40	2	–	674	42	·271	·6
Rabies	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
Louse-borne epidemic typhus	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
Flea-borne endemic typhus...	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
Tick-borne typhus	3	1	4	–	–	–	3	–	3	–	–	–	6	–	1	–	–	–	7	–	·003	
Mite-borne typhus	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
Typhus unspecified and other rickettsial diseases	18	7	25	–	–	–	6	8	14	–	–	–	31	5	3	–	–	–	39	–	·016	
Vivax Malaria (benign tertian)	579	422	1,001	27	5	32	433	432	865	6	6	12	1,826	25	15	43	–	1	1,866	44	·751	·6
Malariae malaria (quartan)	31	115	146	–	2	2	69	107	176	–	–	–	319	3	–	1	1	–	322	2	·130	·0
Falciparum Malaria (Malignant tertian)...	3,239	2,346	5,585	65	46	111	2,818	3,601	6,419	45	31	76	11,861	75	68	182	4	1	12,004	187	4·831	2·9
Blackwater Fever	2	1	3	1	–	1	4	2	6	1	1	2	6	1	2	3	–	–	9	3	·004	·0
Other and unspecified forms of Malaria	3,808	2,495	6,303	63	44	107	1,816	2,494	4,310	56	61	117	10,382	132	99	223	–	1	10,613	224	4·272	3·5
Schistosomiasis vesical (S. haem.)	647	299	946	5	2	7	1,184	1,134	2,318	2	1	3	3,240	11	13	10	–	–	3,264	10	1·314	·1
Schistosomiasis intestinal (S. mansoni)	144	118	262	2	–	2	229	182	411	2	1	3	657	2	14	5	–	–	673	5	·271	·07
Schistosomiasis pulmonary (S. japonicum)	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
Schistosomiasis other and unspecified ...	34	8	42	–	–	–	22	24	46	–	–	–	87	–	1	–	–	–	88	–	·035	
Hydatid disease	5	4	9	–	–	–	2	–	2	–	–	–	11	–	–	–	–	–	11	–	·004	
Filariasis (bancrofti)	181	58	239	1	–	1	80	12	92	–	–	–	331	–	–	1	–	–	331	1	·133	·01
Onchocerciasis	2	–	2	–	–	–	–	–	–	–	–	–	–	2	–	–	–	–	2	–	·001	
Other filariasis	82	12	94	1	–	1	5	–	5	–	–	–	96	3	–	1	–	–	99	1	·040	·01
Ankylostomiasis	1,786	522	2,308	7	–	7	1,992	2,681	4,673	–	–	–	6,967	13	1	7	–	–	6,981	7	2·810	·11
Tapeworm and other cestode infestations	232	123	355	5	3	8	274	385	659	–	–	–	1,002	6	6	8	–	–	1,014	8	·408	·12
Ascariasis	525	382	907	–	–	–	624	1,038	1,662	–	–	–	2,561	8	–	–	–	–	2,569	–	1·034	
Guinea worm (dracunculosis)	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
Other diseases due to helminths	227	135	362	–	–	–	152	162	314	–	–	–	668	8	–	–	–	–	676	–	·272	

TABLE XI—(*contd.*)

DISEASES

In-Patients—Government and Voluntary Agency Hospitals

(Hospitals with resident doctors only—1st January, 1961 to 31st December, 1961)

DISEASES	GOVERNMENT HOSPITALS						VOLUNTARY AGENCY HOSPITALS						TOTAL CASES BY RACES			TOTAL DEATHS BY RACES			TERRITORIAL TOTALS		Percentage Morbidity	Perc ag Mort it
	Cases			Deaths			Cases			Deaths			African	Asian	European	African	Asian	European	Cases	Deaths		
	M	F	Total	M	F	Total	M	F	Total	M	F	Total										
Lymphogranuloma venereum	19	–	19	–	–	–	2	2	4	–	–	–	23	–	–	–	–	–	23	–	·009	
Granuloma inguinale, venereal	14	2	16	–	–	–	9	17	26	–	–	–	42	–	–	–	–	–	42	–	·017	
Chancroid and other unspecified venereal diseases	29	8	37	1	–	1	10	5	15	–	–	–	52	–	–	1	–	–	52	1	·021	
Food poisoning infection and intoxication	118	108	226	2	2	4	20	31	51	6	6	12	273	2	2	16	–	–	277	16	·111	
Relapsing fever, louse-borne	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
Relapsing fever, tick-borne	200	185	385	2	1	3	167	227	394	7	2	9	776	3	–	12	–	–	779	12	·313	
Leptospirosis icterohaemorrhagica (Weil's disease)	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
Yaws	48	28	76	–	–	–	87	67	154	–	–	–	230	–	–	–	–	–	230	–	·093	
Chickenpox	163	117	280	2	1	3	32	22	54	–	–	–	332	1	1	3	–	–	334	3	·134	
Mumps	37	34	71	1	1	2	19	14	33	–	–	–	100	2	2	2	–	–	104	2	·042	
Dengue	–	–	–	–	–	–	24	20	44	–	–	–	44	–	–	–	–	–	44	–	·018	
Trachoma	87	94	181	–	–	–	94	115	209	–	–	–	389	1	–	–	–	–	390	–	·157	
Sandfly fever	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
Leishmaniasis	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	
Trypanosomiasis gambiensis	30	4	34	2	–	2	8	3	11	–	–	–	42	1	2	2	–	–	45	2	·018	
Trypanosomiasis rhodesiensis	221	47	268	17	–	17	65	18	83	2	–	2	350	–	1	19	–	–	351	19	·141	
Trypanosomiasis Other and unspecified	50	13	63	1	–	1	5	14	19	2	1	3	82	–	–	4	–	–	82	4	·033	
Dermatophytosis	40	14	54	–	–	–	39	32	71	–	–	–	120	4	1	–	–	–	125	–	·050	
Scabies	225	73	298	–	–	–	162	166	328	–	–	–	621	1	4	–	–	–	626	–	·252	
All other diseases classified as infective and parasitic	112	203	315	3	2	5	200	144	344	3	1	4	631	13	15	9	–	–	659	9	·265	
																			70,662	1,793	28·440	28·
GROUP II																						
Neoplasms																						
Malignant neoplasm of buccal cavity and pharynx	3	13	16	1	–	1	13	13	26	2	2	4	42	–	–	5	–	–	42	5	·017	
Malignant neoplasm of oesophagus... ...	9	2	11	2	–	2	14	5	19	1	2	3	27	2	1	5	–	–	30	5	·012	
Malignant neoplasm of stomach	27	11	38	5	2	7	50	21	71	8	3	11	100	4	5	16	1	1	109	18	·044	
Malignant neoplasm of intestine, except rectum	14	6	20	6	4	10	19	25	44	5	6	11	58	3	3	17	3	1	64	21	·026	
Malignant neoplasm of rectum	7	7	14	1	–	1	10	11	21	1	–	1	33	2	–	2	–	–	35	2	·014	
Malignant neoplasm of larynx	2	1	3	–	–	–	1	1	2	–	–	–	4	1	–	–	–	–	5	–	·002	

TABLE XI—(*contd.*)

DISEASES

In-Patients—Government and Voluntary Agency Hospitals

(Hospitals with resident doctors only—1st January, 1961 to 31st December, 1961)

DISEASES	GOVERNMENT HOSPITALS						VOLUNTARY AGENCY HOSPITALS						TOTAL CASES BY RACES			TOTAL DEATHS BY RACES			TERRI-TORIAL TOTALS		Percent-age Morbid-ity
	Cases			Deaths			Cases			Deaths			African	Asian	Euro-pean	African	Asian	European	Cases	Deaths	
	M	F	Total	M	F	Total	M	F	Total	M	F	Total									
Malignant neoplasm of trachea and of bronchus and lung not specified as secondary	12	4	16	3	–	3	13	5	18	1	3	4	34	–	–	7	–	–	34	7	·014
Malignant neoplasm of breast	–	47	47	–	4	4	–	55	55	–	3	3	94	4	4	7	–	–	102	7	·041
Malignant neoplasm of cervix uteri... ...	–	191	191	–	7	7	–	104	104	–	4	4	291	4	–	11	–	–	295	11	·119
Malignant neoplasm of other and unspecified parts of uterus	–	46	46	–	11	11	–	70	70	–	2	2	112	2	2	12	1	–	116	13	·047
Malignant neoplasm of prostate	49	–	49	4	–	4	50	–	50	6	–	6	96	3	–	9	1	–	99	10	·040
Malignant neoplasm of skin...	47	54	101	–	1	1	21	15	36	1	–	1	135	1	1	2	–	–	137	2	·055
Malignant neoplasm of bone and connective tissue	57	38	95	3	2	5	29	26	55	3	2	5	146	3	1	10	–	–	150	10	·060
(a) Malignant neoplasm of liver and biliary passages	128	47	175	26	9	35	68	33	101	10	1	11	273	3	–	45	1	–	276	46	·111
(b) Malignant neoplasm of all other and unspecified sites	166	69	235	28	10	38	89	86	175	11	8	19	405	4	1	56	1	–	410	57	·165
Leukaemia and aleukaemia...	20	12	32	12	3	15	10	8	18	9	3	12	49	1	–	26	1	–	50	27	·020
Lymphosarcoma and other neoplasms of lymphatic and haematopoietic system ...	28	93	121	5	1	6	27	19	46	4	–	4	165	2	–	10	–	–	167	10	·067
Benign neoplasms and neoplasms of unspecified nature	328	758	1,086	13	11	24	186	641	827	2	1	3	1,865	30	18	25	1	1	1,913	27	·770
GROUPS III & IV																			4,034	278	1·624
Allergic, Endocrine system, Metabolic and Nutritional Diseases, and Diseases of the Blood, and Blood-Forming Organs																					
Nontoxic goitre	13	28	41	3	–	3	6	72	78	3	4	7	117	–	2	10	–	–	119	10	·048
Thyrotoxicosis with or without goitre ...	8	20	28	1	2	3	7	17	24	–	–	–	40	9	3	3	–	–	52	3	·021
Diabetes mellitus	208	142	350	5	2	7	67	34	101	1	1	2	407	33	11	8	1	–	451	9	·181
Beriberi	35	120	155	12	3	15	34	48	82	1	–	1	234	3	–	14	2	–	237	16	·095
Pellagra	72	45	117	1	1	2	35	53	88	1	1	2	205	–	–	4	–	–	205	4	·083
Scurvy	10	23	33	1	3	4	31	34	65	–	3	3	95	3	–	7	–	–	98	7	·039
Kwashiorkor	489	49	538	31	49	80	320	351	671	7	21	28	1,200	6	3	108	–	–	1,209	108	·487
Other deficiency states	507	307	814	44	66	110	723	893	1,616	14	17	31	2,415	13	2	140	1	–	2,430	141	·978
Anaemias—Pernicious and other hyperchromic	103	80	183	37	7	44	44	85	129	2	2	4	302	8	2	47	–	1	312	48	·126
Anaemias—Iron deficiency hypochromic	500	480	980	19	12	31	1,127	2,231	3,358	9	19	28	4,319	14	5	59	–	–	4,338	59	1·746

TABLE XI—(*contd.*)

DISEASES

IN-PATIENTS—GOVERNMENT AND VOLUNTARY AGENCY HOSPITALS

(Hospitals with resident doctors only—1st January, 1961 to 31st December, 1961)

DISEASES	GOVERNMENT HOSPITALS						VOLUNTARY AGENCY HOSPITALS						TOTAL CASES BY RACES			TOTAL DEATHS BY RACES			TERRITORIAL TOTALS		Percentage Morbidity	Percen age Morta ity
	CASES			DEATHS			CASES			DEATHS			African	Asian	European	African	Asian	European	Cases	Deaths		
	M	F	Total	M	F	Total	M	F	Total	M	F	Total										
Anaemias—Other and unspecified ...	421	374	795	24	21	45	524	909	1,433	11	19	30	2,188	37	3	75	–	–	2,228	75	·897	1·192
Asthma	592	353	945	14	7	21	254	220	474	5	5	10	1,342	53	24	29	2	–	1,419	31	·571	·49
Other allergic disorders, endocrine, metabolic and blood diseases	152	96	248	7	2	9	182	207	389	3	2	5	595	20	22	13	1	–	637	14	·256	·222
GROUP V																			13,735	525	5·528	8·344
Mental, Psychoneurotic and Personality Diseases																						
Psychoses	137	100	237	1	–	1	40	73	113	2	–	2	325	15	10	3	–	–	350	3	·141	·048
Psychoneuroses and disorders of personality	113	101	214	–	1	1	91	164	255	–	–	–	441	10	18	1	–	–	469	1	·189	·016
Mental deficiency	68	56	124	–	–	–	21	28	49	–	2	2	166	4	3	2	–	–	173	2	·069	·032
GROUP VI																			992	6	·399	·096
Diseases of the Nervous System and Sense Organs																						
Vascular lesions affecting central nervous system	87	45	132	11	6	17	57	46	103	4	3	7	222	9	4	20	3	1	235	24	·095	·381
Nonmeningococcal meningitis	140	76	216	25	28	53	75	69	144	9	17	26	351	1	8	79	–	–	360	79	·145	1·255
Multiple sclerosis	28	13	41	27	–	27	16	6	22	5	1	6	60	–	3	33	–	–	63	33	·025	·524
Epilepsy	153	119	272	4	3	7	237	33	270	–	3	3	536	5	1	9	1	–	542	10	·218	·159
Inflammatory diseases of eye	722	364	1,086	2	–	2	725	797	1,522	2	–	2	2,590	15	3	4	–	–	2,608	4	1·050	·064
Cataract	113	197	310	–	–	–	321	206	527	–	–	–	826	11	–	–	–	–	837	–	·337	–
Glaucoma	8	48	56	–	–	–	49	20	69	–	–	–	123	1	1	–	–	–	125	–	·050	–
Otitis externa	56	54	110	–	–	–	100	73	173	1	–	1	281	1	1	1	–	–	283	1	·114	·016
Otitis media and mastoiditis	126	89	215	–	–	–	217	207	424	–	1	1	631	6	2	1	–	–	639	1	·257	·016
Other inflammatory diseases of ear ...	35	34	69	–	–	–	132	51	183	–	–	–	246	4	2	–	–	–	252	–	·102	–
All other diseases and conditions of eyes	257	145	402	–	5	5	285	309	594	–	–	–	983	10	3	5	–	–	996	5	·401	·079
All other diseases of the nervous system and sense organs	346	160	506	5	5	10	206	181	387	6	6	12	830	30	33	22	–	–	893	22	·359	·350
																			7,833	179	3·153	2·844
GROUP VII																						
Diseases of the Circulatory System																						
Rheumatic fever	160	99	259	4	–	4	58	64	122	4	2	6	373	6	2	10	–	–	381	10	·153	·159
Chronic rheumatic heart disease	64	91	155	2	2	4	49	38	87	2	1	3	239	3	–	7	–	–	242	7	·097	·111
Arteriosclerotic and degenerative heart disease	53	28	81	10	4	14	148	131	279	13	9	22	324	26	10	34	2	–	360	36	·145	·572

TABLE XI—(*contd.*)

DISEASES

In-Patients—Government and Voluntary Agency Hospitals

(Hospitals with resident doctors only—1st January, 1961 to 31st December, 1961)

DISEASES	GOVERNMENT HOSPITALS						VOLUNTARY AGENCY HOSPITALS						TOTAL CASES BY RACES			TOTAL DEATHS BY RACES			TERRI-TORIAL TOTALS		Percent-age Morbid-ity	Percen age Mortal ity
	Cases			Deaths			Cases			Deaths												
	M	F	Total	M	F	Total	M	F	Total	M	F	Total	African	Asian	Euro-pean	African	Asian	European	Cases	Deaths		
Other diseases of the heart	366	277	643	43	55	98	287	300	587	23	13	36	1,167	37	26	122	10	2	1,230	134	·496	2·130
Hypertension with heart disease	253	81	334	57	7	64	74	46	120	12	4	16	408	27	19	75	3	2	454	80	·183	1·271
Hypertension without mention of heart ...	94	47	141	12	1	13	58	75	133	3	5	8	246	14	14	20	–	1	274	21	·110	·334
Diseases of arteries	22	5	27	4	2	6	52	36	88	2	5	7	110	3	2	13	–	–	115	13	·046	·207
Other diseases of circulatory system ...	249	180	429	18	6	24	144	102	246	6	7	13	602	36	37	36	1	–	675	37	·272	·588
GROUP VIII																			3,731	338	1·502	5·372
Diseases of the Respiratory System																						
Acute upper respiratory infections	296	495	791	11	4	15	398	478	876	5	3	8	1,607	36	24	23	–	–	1,667	23	·671	·365
Influenza	90	140	230	4	–	4	235	259	494	–	1	1	687	13	24	5	–	–	724	5	·291	·079
Lobar pneumonia	2,725	1,774	4,499	87	63	150	885	828	1,713	31	34	65	6,192	10	10	214	1	–	6,212	215	2·500	3·417
Bronchopneumonia	2,343	2,448	4,791	197	133	330	1,221	1,467	2,688	92	100	192	7,419	47	13	517	4	1	7,479	522	3·010	8·295
Primary, atypical, other and unspecified pneumonia...	337	157	494	11	2	13	235	264	499	17	14	31	964	21	8	42	2	–	993	44	·400	·699
Acute Bronchitis	1,294	967	2,261	5	3	8	705	669	1,374	5	7	12	3,581	24	30	18	1	1	3,635	20	1·463	·318
Bronchitis, chronic and unqualified ...	750	702	1,452	9	11	20	357	361	718	1	1	2	2,106	51	13	20	2	–	2,170	22	·873	·350
Hypertrophy of tonsils and adenoids ...	227	197	424	3	1	4	123	142	265	1	2	3	545	67	77	7	–	–	689	7	·277	·111
Empyema and abscess of lung	110	22	132	8	1	9	39	29	68	–	3	3	196	3	1	11	1	–	200	12	·081	·191
Pleurisy (Other than tuberculous)	121	38	159	3	–	3	83	51	134	2	–	2	275	14	4	5	–	–	293	5	·118	·079
Pneumoconiosis	6	7	13	1	–	1	19	17	36	1	2	3	47	–	2	3	–	1	49	4	·020	·064
All other respiratory diseases	389	392	781	12	6	18	438	465	903	8	9	17	1,593	53	38	34	1	–	1,684	35	·678	·556
GROUP IX																			25,795	914	10·382	14·524
Diseases of the Digestive System																						
Dental caries	116	61	177	–	–	–	119	158	277	–	–	–	440	8	6	–	–	–	454	–	·183	·032
All other diseases of teeth and supporting structures	106	78	184	1	1	2	142	3	145	1	3	4	320	3	6	6	–	–	329	6	·132	·079
Ulcer of stomach	108	46	154	3	3	6	110	46	156	1	1	2	297	5	8	8	–	–	310	8	·125	·127
Ulcer of duodenum	95	21	116	8	–	8	110	50	160	3	–	3	250	14	12	11	–	–	276	11	·111	·175
Gastritis and duodenitis	214	188	402	8	1	9	199	214	413	–	–	–	753	37	25	9	–	–	815	9	·328	·143
Appendicitis	318	137	455	6	1	7	115	81	196	–	2	2	470	122	59	5	3	1	651	9	·262	·143
Intestinal obstruction and hernia	2,541	215	2,756	88	20	108	967	203	1,170	29	11	40	3,813	56	57	145	3	–	3,926	148	1·580	2·352
(a) Gastro-enteritis and colitis—between 4 weeks and 2 years	1,243	1,104	2,347	95	72	167	820	761	1,581	50	52	102	3,851	54	23	268	1	–	3,928	269	1·581	4·275
(b) Gastro-enteritis and colitis—2 years and over	1,246	932	2,178	60	46	106	474	559	1,033	11	16	27	3,130	28	53	129	2	2	3,211	133	1·292	2.113

TABLE XI—(*contd.*)

DISEASES

In-Patients—Government and Voluntary Agency Hospitals

(Hospitals with resident doctors only—1st January, 1961 to 31st December, 1961)

DISEASES	GOVERNMENT HOSPITALS						VOLUNTARY AGENCY HOSPITALS						TOTAL CASES BY RACES			TOTAL DEATHS BY RACES			TERRITORIAL TOTALS		Percentage Morbidity	Perce- age Morta- ity
	Cases			Deaths			Cases			Deaths												
	M	F	Total	M	F	Total	M	F	Total	M	F	Total	African	Asian	European	African	Asian	European	Cases	Deaths		
(c) Chronic enteritis and ulcerative colitis...	89	51	140	3	2	5	39	31	70	–	2	2	194	11	5	7	–	–	210	7	·085	·11
Cirrhosis of the liver	262	152	414	34	11	45	128	80	208	15	6	21	620	2	–	66	–	–	622	66	·250	1·04
Cholelithiasis and cholecystitis	134	55	189	2	4	6	34	48	82	–	–	–	240	10	21	5	1	–	271	6	·109	·0
Other diseases of the digestive system ...	1,929	1,995	3,924	57	59	116	779	852	1,631	13	17	30	5,325	135	95	145	1	–	5,555	146	2·236	2·32
																			20,558	818	8·274	13·01
GROUP X																						
Diseases of the Genito-Urinary System																						
Acute nephritis	155	85	240	7	11	18	79	45	124	6	2	8	345	7	12	23	2	1	364	26	·147	·41
Chronic, other and unspecified nephritis ...	100	56	156	9	3	12	100	92	192	6	8	14	335	8	5	25	1	–	348	26	·140	·41
Infections of kidney (other than tuberculous)	66	45	111	3	3	6	80	48	128	4	–	4	213	16	10	10	–	–	239	10	·096	·15
Calculi of urinary system	29	19	48	–	1	1	34	11	45	–	–	–	77	3	13	1	–	–	93	1	·037	·01
Hyperplasia of prostate	249	–	249	9	–	9	145	–	145	4	–	4	382	5	7	13	–	–	394	13	·159	·20
Diseases of breast	–	223	223	–	–	–	–	198	198	–	–	–	403	7	11	–	–	–	421	–	·169	
Hydrocele	1,176	–	1,176	13	–	13	600	–	600	–	–	–	1,762	4	10	11	2	–	1,776	13	·715	·20
Disorders of menstruation	–	968	968	–	1	1	–	677	677	–	–	–	1,435	106	104	–	1	–	1,645	1	·662	·01
All other diseases of the genito-urinary system	1,963	2,226	4,189	22	16	38	1,137	2,355	3,492	6	8	14	7,335	209	137	52	–	–	7,681	52	3·092	·82
																			12,961	142	5·217	2·25
GROUP XI																						
Deliveries and Complications of Pregnancy, Childbirth and the Puerperium																						
Sepsis of pregnancy, childbirth and the puerperium	–	257	257	–	9	9	–	316	316	–	4	4	568	2	3	13	–	–	573	13	·231	·20
Toxaemias of pregnancy and puerperium ...	–	332	332	–	14	14	–	202	202	–	1	1	504	18	12	14	1	–	534	15	·214	·23
Haemorrhage of pregnancy and childbirth	–	474	474	–	17	17	–	550	550	–	10	10	1,001	14	9	26	1	–	1,024	27	·412	·42
Abortion, without mention of sepsis or toxaemia	–	2,070	2,070	–	6	6	–	1,023	1,023	–	2	2	2,958	93	42	7	1	–	3,093	8	1·245	·12
Abortion with sepsis...	–	357	357	–	10	10	–	143	143	–	5	5	481	15	4	15	–	–	500	15	·201	·23
Other complications of pregnancy, childbirth and the puerperium	–	3,681	3,681	–	127	127	–	3,234	3,234	–	33	33	6,704	132	79	160	–	–	6,915	160	2·783	2·54
Delivery without complications	–	17,341	17,341	–	–	–	–	8,122	8,122	–	–	–	24,543	652	268	–	–	–	25,463	–	10·619	
																			38,102	238	15·705	3·78

TABLE XI—(*contd.*)

DISEASES

In-Patients—Government and Voluntary Agency Hospitals

(Hospitals with resident doctors only—1st January, 1961 to 31st December, 1961)

DISEASES	GOVERNMENT HOSPITALS						VOLUNTARY AGENCY HOSPITALS						TOTAL CASES BY RACES			TOTAL DEATHS BY RACES			TERRI-TORIAL TOTALS		Percentage Morbidity	Perce age Morta ity
	CASES			DEATHS			CASES			DEATHS												
	M	F	Total	M	F	Total	M	F	Total	M	F	Total	African	Asian	European	African	Asian	European	Cases	Deaths		
GROUPS XII & XIII																						
Diseases of the Skin and Cellular Tissues, and Diseases of the Bones and Organs of Movement																						
Infections of skin and subcutaneous tissue...	2,445	1,124	3,569	8	6	14	818	677	1,495	2	7	9	4,959	68	37	23	–	–	5,064	23	2·039	·36
Arthritis and spondylitis	657	244	901	2	–	2	298	226	524	–	–	–	1,398	13	14	2	–	–	1,425	2	·574	·03
Muscular rheumatism and rheumatism unspecified	425	291	716	–	1	1	265	331	596	–	–	–	1,285	14	13	1	–	–	1,312	1	·528	·01
Osteomyelitis and periostitis	324	118	442	–	1	1	106	84	190	–	3	3	614	12	6	4	–	–	632	4	·254	·06
Ankylosis and acquired musculo-skeletal deformities...	30	14	44	1	1	2	31	13	44	–	–	–	84	3	1	2	–	–	88	2	·035	·03
Chronic ulcer of skin (includes tropical ulcer)	1,091	431	1,522	3	3	6	612	455	1,067	2	–	2	2,559	17	13	8	–	–	2,589	8	1·042	·12
All other skin diseases	331	183	514	2	2	4	319	266	585	1	–	1	1,064	21	14	5	–	–	1,099	5	·442	·07
All other diseases of the musculo-skeletal system	1,279	721	2,000	21	13	34	264	218	482	1	1	2	2,383	77	22	36	–	–	2,482	36	·999	·57
																			14,691	81	5·913	1·28
GROUP XIV																						
Congenital Malformations																						
Spina bifida and meningocele	9	9	18	–	1	1	4	4	8	–	–	–	24	2	–	1	–	–	26	1	·010	·01
Congenital malformations of circulatory system	7	5	12	2	3	5	13	10	23	2	2	4	34	1	–	9	–	–	35	9	·014	·14
All other congenital malformations... ...	76	48	124	2	3	5	59	72	131	7	4	11	242	9	4	15	1	–	255	16	·103	·25
																			316	26	·127	·41
GROUP XV																						
Certain Diseases of Early Infancy																						
Birth injuries...	8	20	28	1	–	1	42	30	72	15	10	25	99	1	–	26	–	–	100	26	·040	·41
Postnatal asphyxia atelectasis	57	36	93	5	–	5	77	78	155	18	10	28	247	–	1	33	–	–	248	33	·100	·52
(a) Diarrhoea of newborn (under 4 weeks)	23	45	68	1	4	5	33	39	72	4	5	9	136	2	2	14	–	–	140	14	·056	·22
(b) Ophthalmia neonatorum	4	13	17	–	1	1	36	49	85	1	–	1	99	–	3	2	–	–	102	2	·041	·03
(c) Other infections of newborn	25	18	43	6	2	8	35	43	78	3	3	6	119	2	–	14	–	–	121	14	·049	·22
Haemolytic disease of newborn	2	4	6	1	2	3	9	4	13	2	–	2	19	–	–	5	–	–	19	5	·008	·07

TABLE XI—(*contd.*)

DISEASES

In-Patients—Government and Voluntary Agency Hospitals

(Hospitals with resident doctors only—1st January, 1961 to 31st December, 1961)

DISEASES	GOVERNMENT HOSPITALS						VOLUNTARY AGENCY HOSPITALS						TOTAL CASES BY RACES			TOTAL DEATHS BY RACES			TERRITORIAL TOTALS		Percentage Morbidity	Perce age Mortal ity
	CASES			DEATHS			CASES			DEATHS			African	Asian	European	African	Asian	European	Cases	Deaths		
	M	F	Total	M	F	Total	M	F	Total	M	F	Total										
All other defined diseases of early infancy ...	35	29	64	7	1	8	94	119	213	5	7	12	270	4	3	20	–	–	277	20	·111	·31
Ill-defined diseases peculiar to early infancy, and immaturity (all types)	115	98	213	25	33	58	398	476	874	119	12	131	1,073	10	4	188	1	–	1,087	189	·438	3·00
																			2,094	303	·843	4·81
GROUP XVI																						
Symptoms, Senility and Ill-defined Conditions																						
Senility without mention of psychosis ...	327	60	387	11	5	16	50	66	116	4	11	15	491	7	5	30	–	1	503	31	·202	·49
(a) Pyrexia of unknown origin	3,082	2,496	5,578	106	55	161	516	673	1,189	19	14	33	6,651	50	66	193	1	–	6,767	194	2·724	3·08
(b) Observation, without need for further medical care	943	1,227	2,170	–	–	–	534	953	1,487	–	–	–	3,524	86	47	–	–	–	3,657	–	1·472	–
(c) All other ill-defined causes of morbidity	553	554	1,107	40	34	74	419	337	756	24	19	43	1,772	46	45	114	2	1	1,863	117	·750	1·80
																			12,790	342	5·148	5·38
GROUP XVII																						
Accidents, Poisoning and Violence																						
Fracture of skull	250	59	309	44	4	48	173	13	186	10	–	10	466	15	14	54	4	–	495	58	·199	·92
Fracture of spine and trunk...	547	59	606	13	1	14	138	33	171	3	–	3	748	15	14	17	–	–	777	17	·313	·27
Fracture of limbs	2,907	1,046	3,953	18	8	26	379	171	550	1	1	2	4,276	153	74	25	2	1	4,503	28	1·812	·44
Dislocation without fracture	436	181	617	–	1	1	88	39	127	–	–	–	717	21	6	1	–	–	744	1	·299	·01
Sprains and strains of joints and adjacent muscles	687	208	895	–	–	–	160	59	219	–	–	–	1,087	16	11	–	–	–	1,114	–	·448	–
Head injury (excluding fracture)	485	96	581	17	3	20	90	33	123	3	–	3	661	24	19	23	–	–	704	23	·283	·36
Internal injury of chest, abdomen and pelvis	404	44	448	24	9	33	257	55	312	4	–	4	750	5	5	35	1	1	760	37	·306	·58
Laceration and open wounds	3,194	889	4,083	9	2	11	669	334	1,003	2	–	2	4,988	62	36	12	1	–	5,086	13	2·047	·20
Superficial injury, contusion and crushing with intact skin surface	1,103	611	1,714	5	4	9	237	137	374	–	–	–	2,036	32	20	9	–	–	2,088	9	·840	·14
Effects of foreign body entering through orifice	248	81	329	2	–	2	79	72	151	–	–	–	463	14	3	2	–	–	480	2	·193	·03
Burns	659	531	1,190	21	12	33	210	155	365	5	4	9	1,531	15	9	40	2	–	1,555	42	·626	·66
Effects of poisons	365	203	568	17	3	20	145	104	249	31	22	53	774	25	18	71	1	1	817	73	·329	1·16
All other and unspecified effects of external causes	466	288	754	5	7	12	181	109	290	6	2	8	1,005	24	15	18	1	1	1,044	20	·420	·31
																			20,167	323	8·115	5·13
GRAND TOTALS ...	73,870	72,069	145,939	2,441	1,707	4,148	42,464	60,058	102,522	1142	1,000	2,142	241,806	4,049	2,606	6,158	104	28	248,461	6,306	–	–

TABLE XII

DISEASES

OUT-PATIENTS—GOVERNMENT AND VOLUNTARY AGENCY HOSPITALS

(Hospitals with resident doctors only—1st January, 1961 to 31st December, 1961)

DISEASES	GOVERNMENT HOSPITALS			VOLUNTARY AGENCY HOSPITALS			Total European	Total Asian	Total African	Territorial Total	Group Total	Percenta Morbidit in Groups
	Males	Females	Total	Males	Females	Total						
GROUP I												
Infective and Parasitic Diseases (and influenza, all types meningitis and eye diseases)												
Tuberculosis of the respiratory system ...	2,602	1,595	4,197	567	463	1,030	5	27	5,195	5,227		·24
Other Tuberculous diseases	427	357	784	152	237	389	3	5	1,165	1,173		·05
Syphilis	5,268	2,880	8,148	1,009	1,360	2,369	1	4	10,512	10,517		·49
Gonorrhoea	26,306	8,186	34,492	3,811	3,160	6,971	13	49	41,401	41,463		1·94
Other venereal diseases ...	2,968	1,955	4,923	106	79	185	8	16	5,084	5,108		·23
Fevers of uncertain origin	108,995	91,470	200,465	7,932	8,405	16,337	463	983	215,356	216,802		10·16
Bacillary dysentery	4,726	3,607	8,333	890	764	1,654	55	39	9,893	9,987		·46
Amoebiasis	321	246	567	596	568	1,164	42	27	1,662	1,731		·081
Other dysenteries	10,235	7,608	17,843	2,273	2,379	4,652	90	86	22,319	22,495		1·054
Diphtheria	34	21	55	2	1	3	4	–	54	58		·00
Whooping Cough...	3,827	3,599	7,426	1,693	1,921	3,614	61	81	10,898	11,040		·517
Meningitis...	48	12	60	19	26	45	–	1	104	105		·005
Plague	–	–	–	–	–	–	–	–	–	–		–
Leprosy	1,244	684	1,928	526	379	905	–	1	2,832	2,833		·133
Tetanus	47	36	83	10	6	16	–	1	98	99		·005
Anthrax	204	141	345	25	23	48	1	2	390	393		·018
Relapsing Fever ...	255	173	428	265	275	540	2	–	966	968		·045
Yaws	2,223	1,556	3,779	469	463	932	–	–	4,711	4,711		·221
Acute Poliomyelitis	18	18	36	43	28	71	1	6	100	107		·005
Smallpox:—												
(a) Variola Major	–	–	–	–	–	–	–	–	–	–		–
(b) Variola Minor	21	38	59	3	9	12	1	–	70	71		·003
Measles	4,511	4,400	8,911	904	948	1,852	49	41	10,673	10,763		·505
Chickenpox	1,915	1,329	3,244	165	178	343	41	16	3,530	3,587		·168
Mumps	2,178	1,525	3,703	186	154	340	10	12	4,021	4,043		·190
Yellow Fever	–	–	–	–	–	–	–	–	–	–		–
Rabies	–	–	–	–	–	–	–	–	–	–		–
Trachoma	1,258	983	2,241	516	468	984	2	14	3,209	3,225		·151
Typhus and other rickettsial diseases	5	–	5	4	4	8	5	1	7	13		·001
Malaria:—												
(a) Benign Tertian	2,745	2,304	5,049	10,426	10,348	20,774	105	158	25,560	25,823		1·210
(b) Quartan	67	30	97	117	110	227	1	1	322	324		·015
(c) Subtertian	22,458	18,354	40,812	18,127	19,585	37,712	160	530	77,834	78,524		3·680
(d) Unclassified	38,701	28,646	67,347	9,138	10,453	19,591	242	534	86,162	86,938		4·075
Blackwater fever...	1	–	1	1	–	1	1	–	1	2		·000
Trypanosomiasis ...	6	10	16	5	–	5	1	1	19	21		·001
Schistosomiasis:—												
(a) Vesical (haematobium) ...	12,634	6,363	18,997	4,254	3,910	8,164	7	19	27,135	27,161		1·273
(b) Intestinal (mansoni)	1,028	724	1,752	787	999	1,786	9	4	3,525	3,538		·166

TABLE XII—(*contd.*)

DISEASES

OUT-PATIENTS—GOVERNMENT AND VOLUNTARY AGENCY HOSPITALS

(Hospitals with resident doctors only—1st January, 1961 to 31st December, 1961)

DISEASES	GOVERNMENT HOSPITALS			VOLUNTARY AGENCY HOSPITALS			Total European	Total Asian	Total African	Territorial Total	Group Total	Percent Morbidi in Group
	Males	Females	Total	Males	Females	Total						
Tapeworm	2,221	1,426	3,647	793	920	1,713	14	8	5,338	5,360		·2
Filariasis (bancrofti)	390	281	671	93	42	135	1	–	805	806		·0
Onchocerciasis	–	1	1	2	1	3	–	3	1	4		·0
Ankylostomiasis	10,466	9,187	19,653	7,602	9,626	17,228	5	56	36,820	36,881		1·7
Ascariasis	4,979	4,088	9,067	3,304	3,685	6,989	33	34	15,989	16,056		·7
Guinea Worm (dracunculosis)	–	–	–	–	–	–	–	–	–	–		
Tinea	3,986	2,159	6,145	618	356	974	59	33	7,027	7,119		·3
Scabies	12,751	10,278	23,029	2,857	2,698	5,555	5	49	28,530	28,584		1·34
All other infective and parasitic diseases	7,385	6,117	13,502	1,991	1,782	3,773	235	177	16,863	17,275		·81
											690,935	52·3
GROUP II												
Neoplasms												
Malignant neoplasms	66	65	131	101	120	221	3	12	337	352		·01
Non-malignant	403	571	974	190	653	843	44	20	1,753	1,817		·08
Unspecified	325	538	863	87	169	256	28	17	1,074	1,119		·05
											3,288	·15
GROUP III												
Allergic, Endocrine system, Metabolic and Nutritional Diseases												
Asthma	3,859	2,299	6,158	658	442	1,100	58	270	6,930	7,258		·34
Diabetes	242	86	328	86	38	124	17	78	357	452		·02
Vitamin deficiency states	1,595	4,592	6,187	2,788	3,069	5,857	10	97	11,937	12,044		·56
Kwashiorkor	2,411	1,844	4,255	555	543	1,098	2	14	5,337	5,353		·25
Other allergic, endocrine system, metabolic, and nutritional diseases	6,084	5,862	11,946	1,470	1,888	3,358	318	383	14,603	15,304		·71
											40,411	1·89
GROUP IV												
Diseases of the Blood and Blood-Forming Organs												
All diseases of the blood and blood-forming organs	2,535	2,513	5,048	2,757	4,617	7,374	132	340	11,950	12,422		
											12,422	·58
GROUPS V & VI												
Mental, Psychoneurotic and Personality Diseases, and Diseases of the Nervous System and Sense Organs												
Mental disorders	154	112	266	77	69	146	46	44	322	412		·01
Cerebral haemorrhage	9	6	15	5	1	6	1	5	15	21		·00
Epilepsy	234	99	333	79	52	131	8	13	443	464		·02
Other diseases of nervous system	5,882	4,740	10,622	645	625	1,270	216	171	11,505	11,892		·55
Inflammatory and other diseases of eye and annexa except trachoma	40,519	36,256	76,775	10,095	11,198	21,293	361	526	97,181	98,068		4·59
Diseases of ears and mastoid	16,641	12,851	29,492	3,306	3,270	6,576	747	436	34,885	36,068		1·69
											146,925	6·86

TABLE XII—(*contd.*)

DISEASES

OUT-PATIENTS—GOVERNMENT AND VOLUNTARY AGENCY HOSPITALS

(Hospitals with resident doctors only—1st January, 1961 to 31st December, 1961)

DISEASES	GOVERNMENT HOSPITALS			VOLUNTARY AGENCY HOSPITALS			Total European	Total Asian	Total African	Territorial Total	Group Total	Percenta Morbidit in Group
	Males	Females	Total	Males	Females	Total						
GROUP VII												
Diseases of the Circulatory System												
(a) Heart disease	617	547	1,164	1,314	1,408	2,722	121	134	3,631	3,886		·18
(b) Other circulatory diseases	1,189	776	1,965	394	417	811	250	169	2,357	2,776		·13
											6,662	·31
GROUP VIII												
Diseases of the Respiratory System												
Pneumonia	7,460	7,115	14,575	2,056	2,408	4,464	22	152	18,865	19,039		·89
Other diseases of respiratory system	154,537	133,233	287,770	21,023	21,423	42,446	2,425	3,237	324,554	330,216		15·47
											349,255	16·36
GROUP IX												
Diseases of the Digestive System												
Of Teeth, and supporting structures:—												
(a) Caries	17,089	12,232	29,321	3,070	2,941	6,011	269	563	34,500	35,332		1·65
(b) Other conditions	5,744	4,054	9,798	1,259	1,132	2,391	119	188	11,882	12,189		·57
Appendicitis	100	66	166	66	45	111	23	35	219	277		·01
Intestinal obstruction and hernia	2,551	50	2,601	627	128	755	14	26	3,316	3,356		·15
Gastro-enteritis:—												
(a) Between 4 weeks and 2 years	12,916	12,345	25,261	2,339	2,321	4,660	162	140	29,619	29,921		1·40
(b) 2 years and over	16,241	11,530	27,771	1,288	1,484	2,772	366	187	29,990	30,543		1·43
Cirrhosis of liver	144	81	225	57	41	98	3	9	311	323		·01
Other diseases of liver and bile passages	1,031	587	1,618	575	559	1,134	66	51	2,635	2,752		·12
Other diseases of digestive system	97,499	90,142	187,641	8,266	9,356	17,622	804	1,007	203,452	205,263		9·62
											319,956	14·99
GROUP X												
Diseases of the Genito-Urinary System												
Nephritis	117	325	442	69	150	219	17	16	628	661		·03
Other diseases of Genito-Urinary System	21,343	21,919	43,262	4,098	8,587	12,685	545	777	54,625	55,947		2·62
											56,608	2·65
GROUP XI												
Complications of Pregnancy, Childbirth and the Puerperium												
(a) Toxaemias of pregnancy	–	957	957	–	261	261	42	35	1,141	1,218		·05
(b) Abortion	–	619	619	–	479	479	14	24	1,060	1,098		·05

TABLE XII—(*contd.*)

DISEASES

OUT-PATIENTS—GOVERNMENT AND VOLUNTARY AGENCY HOSPITALS

(Hospitals with resident doctors only—1st January, 1961 to 31st December, 1961)

DISEASES	GOVERNMENT HOSPITALS			VOLUNTARY AGENCY HOSPITALS			Total European	Total Asian	Total African	Territorial Total	Group Total	Percentag Morbidity in Groups
	Males	Females	Total	Males	Females	Total						
(c) Other conditions of the puerperal state	–	4,213	4,213	–	2,957	2,957	122	152	6,896	7,170		·336
Normal deliveries...	–	–	–	–	–	–	–	–	–	–	–	–
GROUPS XII & XIII											9,486	·444
Diseases of the Skin and Cellular Tissue, and Diseases of Bones and Organs of Locomotion												
Ulcers	60,663	27,472	88,135	9,780	7,189	16,969	120	251	104,733	105,104		4·927
Rheumatic conditions	30,763	26,814	57,577	2,990	2,888	5,878	334	476	62,645	63,455		2·974
Other diseases of bones, skin, and musculo-skeletal system	44,955	33,479	78,434	5,291	4,741	10,032	1,767	1,299	85,400	88,466		4·146
GROUPS XIV & XV											257,025	12·047
Congenital Malformations and certain Diseases of Early Infancy												
(a) Diarrhoea of new-born	818	618	1,436	134	182	316	1	8	1,743	1,752		·082
(b) Ophthalmia neonatorum	120	92	212	19	22	41	1	1	251	253		·012
(c) Immaturity	42	20	62	50	85	135	1	1	195	197		·009
(d) All other malformations and diseases of early infancy	491	369	860	257	245	502	10	9	1,343	1,362		·064
											3,564	·167
GROUP XVI												
Senility and Ill-Defined Conditions												
Senility	468	517	985	109	116	225	16	10	1,184	1,210		·057
All other ill-defined causes of morbidity	12,263	10,506	22,769	2,095	2,407	4,502	397	359	26,515	27,271		1·278
GROUP XVII											28,481	1·335
Accidents, Poisoning and Violence												
Fractures and dislocations	2,752	1,667	4,419	494	269	763	166	138	4,878	5,182		·243
Injuries by animals and insects	2,500	1,416	3,916	569	409	978	143	61	4,690	4,894		·228
Other wounds and superficial injuries (excluding burns)	43,611	17,584	61,195	10,613	5,649	16,262	465	509	76,483	77,457		3·630
Burns and scalds	5,777	3,873	9,650	909	764	1,673	34	79	11,120	11,323		·531
Poisons	181	128	309	26	18	44	8	7	338	353		·017
All other injuries from external causes	19,724	8,538	28,262	3,182	1,822	5,004	170	200	32,896	33,266		1·560
Examinations	18,161	8,800	26,961	19,352	29,788	49,140	2,390	1,690	72,021	76,101		3·567
											208,576	29·776
TOTALS ...	962,280	737,505	1,699,785	207,551	226,258	433,809	15,133	17,445	2,101,016	2,133,594	2,133,594	

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